

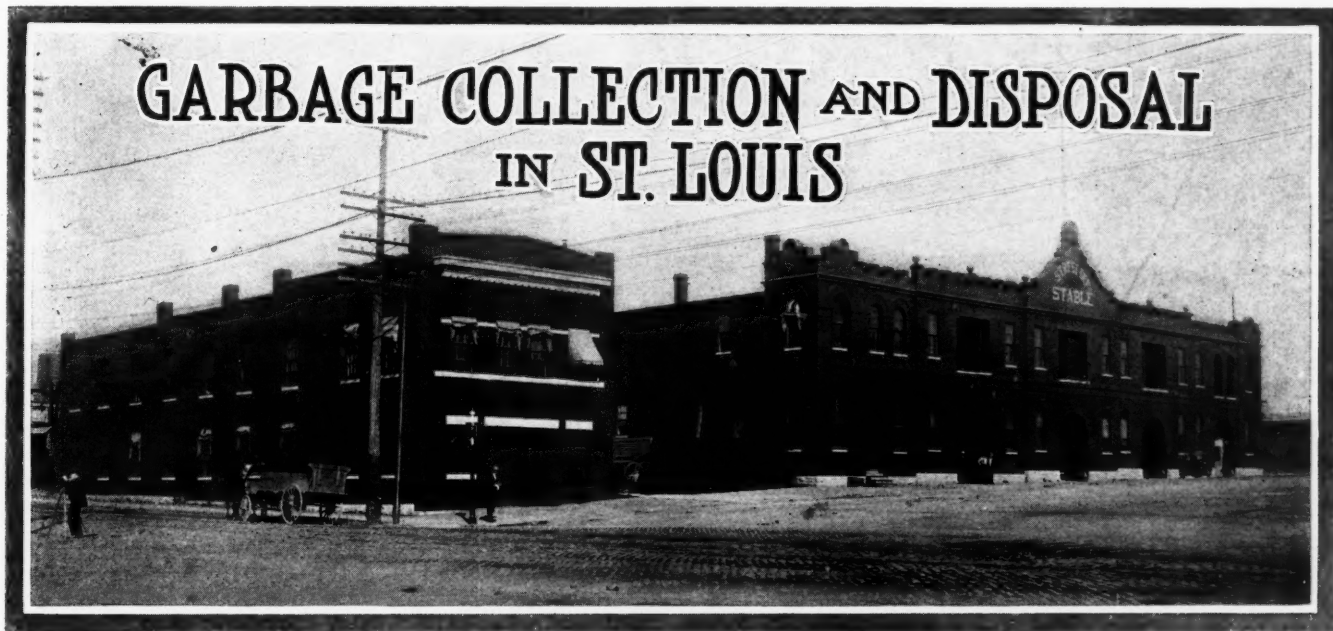
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CITY STABLE FOR GARBAGE COLLECTION HORSES. CITY REPAIR SHOP AT THE LEFT

By CHAS. CLAUDE CASEY

IN our issue of Oct. 2, 1907, appeared an article describing the terms of a contract which was about to be let for disposing of the city's garbage by reduction for a term of ten years. Later, as was noted in these columns, the contract was let to the Standard Reduction & Chemical Company, under the terms of which this company was to dispose of all the garbage which the city should deliver to it at two receiving stations, and to receive for this service 27 cents per ton.

The company started the plant in operation March 10 of this year, but in a very short time it was found to be inadequate. The machinery proved to be too light and did not keep in operation sufficiently long to give the company an opportunity to determine the merits of the system which it was using. New machinery of a stronger type was installed at a large outlay and the plant again started. Again certain of the machinery proved inadequate, and a second reconstruction of parts of the plant became necessary. About the middle of the summer equipment which promised to stand the strain was installed, and the plant made ready to operate. About that time, however, the residents of St. Charles, Mo., just across the Missouri River, raised strenuous objections to the operation of the plant, on account of the odors already experienced or anticipated. A conference in the office of the Mayor of St. Louis resulted in an agreement by the company to provide odor destroying devices (which its original contract called for), and installing these caused a further delay. Finally the plant was started on September 8, but when it had operated but a few days an explosion of naphtha again tied it up until the twenty-fifth of that month. From that time up to the present writing the plant has been operating in a manner which the representatives of the company declare to be satisfactory. The company gives out little information at the present time concerning the plant, but all garbage which is delivered by the city is

being taken care of, and there have been no new complaints of odor; from which it may be inferred that some measure of success at least has been attained. The breakdowns above referred to are claimed by the representatives of the company to have been due wholly to weakness of the crushing and grinding machinery and not to the process. Also the driers have been enlarged and improved.

During the time that the company was unable to reduce the garbage at its plant, it assumed the expense of shipping it to Chesley Island and feeding it there to hogs—the same plan which the city followed prior to the time this contract became effective. This the company was required to do under its contract or forfeit \$10 a ton to be deducted from its cash deposit and bond. The city has considered it expedient to be lenient with the company, in view of the very low rate which it obtained in the contract, and has, therefore, exercised what patience it could in awaiting the bringing of the plant to an efficient condition, and for the same reason it did not enforce the provisions against creating a nuisance until required to by the city of St. Charles, as just described.

The garbage is collected by the city and is delivered by it at two receiving stations, where it is received by the company and disposed of at its expense. These receiving stations, including switches, inclined approaches for wagons, etc., cost the company about \$20,000. An office is provided on each approach for the weighers, who are paid by the city, and weigh every load of garbage. The garbage is dumped at these stations into steel garbage cars which have semi-cylindrical bottoms and flat tops, and which, when closed after being loaded, are supposed to be odorless. In these cars the garbage is hauled to the utilizing works, where the cars are turned completely over on their trucks in dumping their contents into the storage pit. The company now has in service 18 cars costing about \$2,200 each; and it is believed that these will carry all of the garbage likely to

be offered by the city on any one day during the next four or five years.

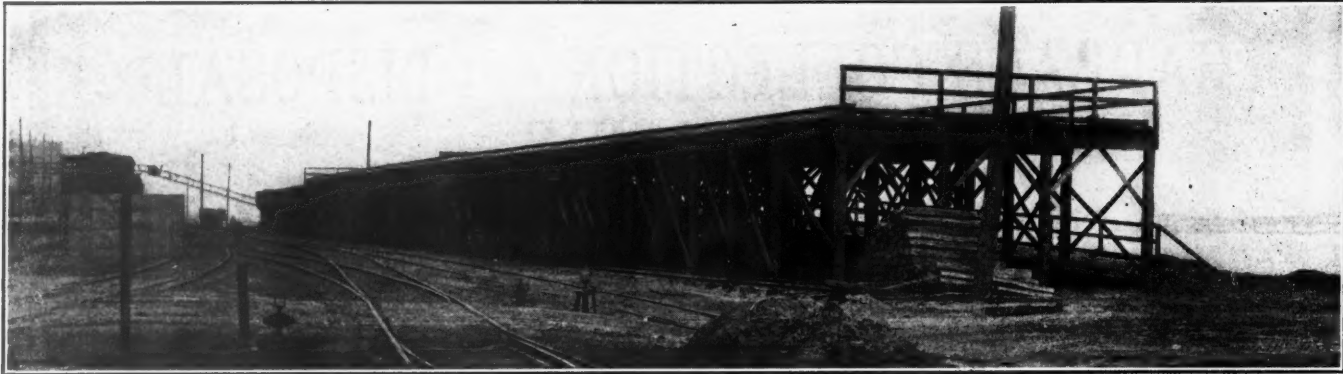
As just stated, the weighers are paid by the city, and in addition there are the salaries and office expenses connected with superintendence, all of which aggregate about 15 cents a ton, making the total cost of garbage disposal about 42 cents a ton. This covers disposal only and not the collection. From the time the plant started in March up to Oct. 1 slightly more than 30,000 tons of garbage had been disposed of at a total cost of \$12,128.31. During the same period last year the cost was \$37,432.97, or more than three times as much.

The following table shows the amount of garbage collected by the city during the seven months ending with Sept. 30, as

tion alone, with an average of slightly more than \$2 per ton, or almost five times the average cost during the seven months under the present contract. During the first three years of this period the garbage was reduced by contract. In 1905 the city bought the garbage collection system, and began sending the garbage to Chesley Island and feeding it to hogs. Under these arrangements the average cost for five years was \$74,491.53 per year.

COLLECTION OF GARBAGE

Garbage collection also has been a very expensive matter for the city and is still found to be so. During the three years when the collection and disposal were under contract the average cost of collection was \$113,108.33 a year. The purchase in



RECEIVING STATION, SHOWING STEEL GARBAGE CARS

compared with the same months last year, and the cost of disposal by months under each process.

	Tons, 1908	Cost	Tons, 1909	Cost
March	2,655	\$5,196.70	2,526	\$747.11
April	3,216	4,961.86	2,476	953.29
May	4,147	5,124.84	2,813	1,223.19
June	5,097	5,175.07	3,875	1,626.96
July	5,644	5,416.42	4,729	1,986.13
August	6,777	5,641.53	6,945	2,916.75
September	6,687	5,916.55	*6,845	2,874.90
	34,243	\$37,432.97	30,303	\$12,128.31

*Estimated for the last few days of month.

In former years the city paid for garbage disposal from three to six times what the cost will be this year; the cost of reduction in the fiscal years ending, April, 1902, to 1909, respectively, being as follows: \$89,788.86; \$129,999.96; \$86,666.64; \$106,950.33; \$62,691.99; \$64,766.40; \$72,999.05, and \$65,049.90, an average for the eight years of \$84,739.14. During these years the cost per ton ranged from \$1.25 to \$3.71 per ton for reduc-

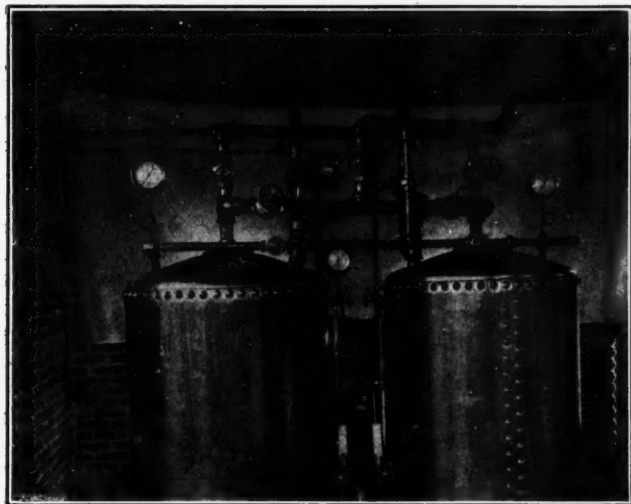
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The collection system includes an extensive stable, now known as the Street Department stables, covering, including yards, about two solid blocks of ground and worth about \$175,000, including equipment. There are 400 head of horses and mules, 215 wagons, including ash, garbage, sprinkling, mud and other wagons. During the summer about 105 teams are employed in the garbage collection division, but in the winter not more than one-half as many wagons are required for garbage, the idle teams replacing hired teams in street cleaning work.

Garbage wagons are thoroughly washed and disinfected with



RECEIVING STATION. WEIGHER'S OFFICE AT END OF RAMP



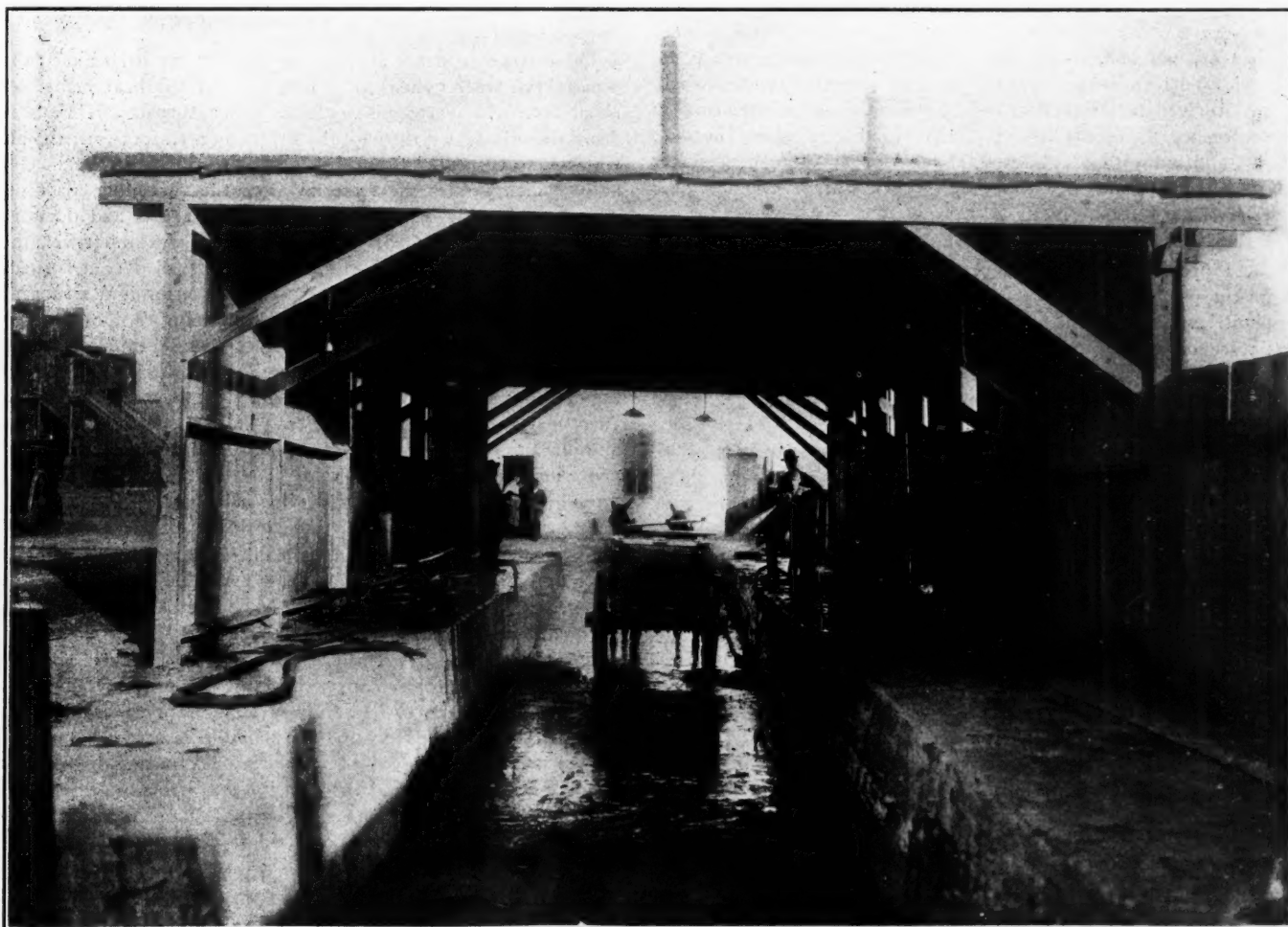
CHEMICAL TANKS FOR MIXING GARBAGE WAGON DISINFECTANT

hot water and a 2 per cent solution of creosote every day, so that when lined up in the big yards there is so little smell from the 100 wagons that anyone passing the yards, located on Forest Park Boulevard, would never suspect that it was the home of the garbage collection system. Along the street, which has a fine parked center and a grass plot along the sidewalk, runs a high brick wall shutting off the view of passersby, and the big stone pillared entrance might be taken for the automobile entrance to some millionaire's mansion. Indeed, this entrance is seldom used for anything except the entrance of the automobiles of the Street, Dispensary, Water, Building and Lighting Departments, of which there are seven, kept in a garage at the rear of the wagon yard, across the street from the stables. Garbage and other less sightly wagons enter and leave the lot at the alley side.

When wagons return from the day's garbage collections each drives at once into a frame building with open ends and a concrete floor, sloping in the middle to a sewer. Above the heads of the horses when the wagon is stopped is a shower, which in summer is allowed to play upon the heads and backs of the horses. A hose connected to the chemical tanks under another shed supplies hot water, mixed with creosote, at a high pressure, and is in easy reach of every driver, and every wagon as soon as it enters is thoroughly cleaned and disinfected. About four barrels of creosote a year are used, costing about \$100. This apparatus was installed by the City Inspector of Boilers and Elevators at small cost, and includes two ordinary upright boilers, connected together and equipped with furnaces.

During the present administration the Street Department has erected a shop for repairing implements used in street cleaning and garbage collection. The shop is not confined to repair work, however, for Street Commissioner James C. Travilla has learned from experience that better and more durable wagons for garbage collection and other work can be built in the city shop than are usually obtained in the open market, and as a result he is now having most of his wagons and similar equipment built under his own personal supervision. During the last few months 15 new leakproof garbage wagons have been built, and work is under way to replace the entire 105 wagons with new ones of the same type. The new wagons have a slanting rear end board built solid into the wagon bed so that when the wagon is dumped the garbage slides out of the rear without the necessity of opening the end. This form makes it possible to construct the beds of sheet steel $3\frac{1}{2}$ by 10 feet, all seams being solid and leakproof, since it is not necessary for any seam to be free.

The department has, fortunately, been able to rent a large farm some miles from the city at almost nothing, and to this farm all horses temporarily out of commission are sent to rest



SHED IN MUNICIPAL WAGON YARD WHERE GARBAGE WAGONS ARE WASHED AND DISINFECTED

up, or for treatment, many horses being continually on the sick or injured list where 400 are employed. No horses are kept, however, which have permanently gone to the bad. The farm is the old Kent homestead, owned by the family of President Grant's wife. The Grant farm is just across the road from the "Street Department's Country Home." From 10 to 25 horses are continually on the farm.

An ordinance has recently been passed by the Municipal Assembly requiring all residents to provide sanitary garbage cans in which to store garbage until it is collected by the city wagons. The cans must be of a non-absorbent material, leak-proof and fly tight. They must also be set within 6 feet of the gate to the alley. A wagon drives through each alley every other day, collection being made by all teams in the south end of the city on Mondays, Wednesdays and Fridays, and in the north end on Tuesdays, Thursdays and Saturdays, except that in the business district collection is made every day. Another requirement of the ordinance is that the house number shall be painted on the alley fence near the gate in figures at least 2 inches high. All of the requirements apply to the occupant of the house, not to the owner, and the Police and Health Department inspectors have been instructed to see that the ordinance is strictly complied with. The ordinance was the result of a long fight by a manufacturer of garbage cans, but has the hearty endorsement of the health authorities because of the better sanitary conditions it promotes.

The compulsory use of cans has materially increased the amount of garbage to be collected, and has very greatly improved the sanitary condition of some sections of the city. In the poorer districts few families had sanitary cans, and many did not attempt to keep garbage at all. Even in the more aristocratic sections of the city the cans have produced an increase in garbage, for it has served to imbue servants with greater care in putting the garbage in the cans and has provided greater convenience for them.

The Street Commissioner, who has charge of the collection of garbage, has discovered an additional virtue in the compulsory can. He says that rats are starving to death because they are not able to get into the flyproof cans and are being rapidly driven from the city. In the poorer districts, where rats thrived better than anywhere else, the use of the cans in preference to vacant lots has made food particularly hard to get, and many reports have been received by the commissioner of late that rats are killing large chickens in their frantic effort to get food.

THE REDUCTION PLANT

As previously stated, the reduction company is averse to making public the details of the present condition of the plant, probably on account of the more or less experimental nature of several of these. A description is given herewith, however, which sets forth the plant as originally constructed, together with, it is believed, the most important changes which have been made.

When received at the reduction plant in the tank cars previously described, the garbage is dumped into a storage pit 15 feet wide, 60 feet long and 4 feet deep. This pit is at the eastern end of the plant, and after leaving this the garbage is carried continuously in a general westward direction until the products are finally received in the warehouse at the extreme western end. The storage pit slopes slightly to one end, where the liquid from the garbage is collected in a sump, from which it is pumped to a grease tank outside the building. Through the middle of the storage pit, at its bottom, runs a chain conveyor 18 inches wide which carries the garbage to and dumps it into a bucket elevator. The garbage ordinarily feeds by gravity to the chain conveyor, but occasionally it must be assisted by hand in order to keep a uniform amount on the conveyor. The bucket elevator travels in a water-tight steel casing which prevents the splashing of the liquids of the garbage from the buckets. The elevator raises the garbage to the top of the building and dumps it onto a 3-foot belt, which in turn carries it to the pulping pan. Two men stand at the side of this belt and remove from it any foreign substances, bottles, etc. Of

the foreign matter removed from the belt the woolen rags are saved, and glass, iron and other metals are thrown onto a cross-conveyor which carries them to the outside of the building, where they are later sorted for sale.

The pulping pan, which is shaped something like an immense wash basin, is 9 feet in diameter and contains two grinding rollers which crush the garbage and make it into a homogeneous mass ready for the automatic compressor. From the pan the pulp is raised by a bucket elevator which drops it into the compressor, where it is reduced to a thin solid sheet. The compressor is a powerful cylinder with its outlet end tapering to a slot much smaller in area than the cylinder. In the cylinder a piston making six strokes a minute compresses the garbage, which is admitted to the cylinder between strokes. As the garbage is forced out a considerable percentage of the liquor is pressed out and is carried to the grease tank which receives the effluent from the sump in the storage pit before mentioned. The compressed pulp is delivered to a shredding machine, which consists of two rollers with interlacing teeth which work between each other in such a way that the garbage is torn into shreds, in which condition it passes to another bucket elevator which raises it and discharges it onto a horizontal conveyor by which it is conducted to the hopper of the drying apparatus.

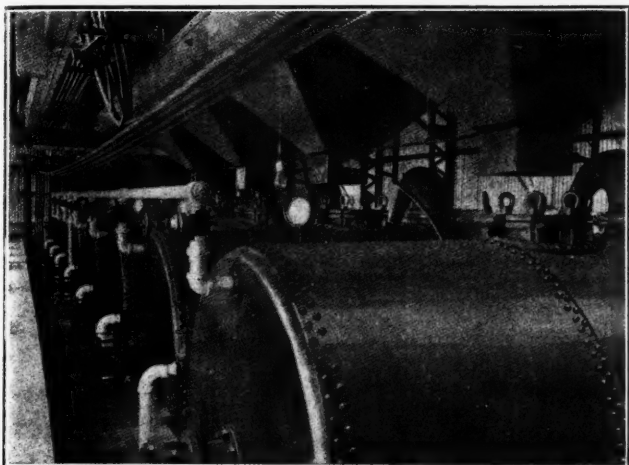
There are two dryers, each about 15 feet in diameter by 30 feet in height and containing five floors. The top floor, which is also the bottom of the hopper, has a hole in the center, to which the finely ground garbage is worked by six revolving arms resting on the surface of the floor, the object of which is to continually keep the material in motion. Dropping through the hole, the garbage reaches the second floor, where similarly revolving arms, after thoroughly mixing it, push it to the circumference, where there is a slot through which it falls to the floor below. The other three floors alternate in the same way from center opening to circumferential opening. From the bottom floor the dried garbage is dropped onto a conveyor by which and by a bucket elevator it is delivered to the second drier. After passing through this the material is practically free from moisture.

Three large furnaces around the sides of the driers keep the atmosphere within them very hot, part of the heat being derived from the waste gases of the boiler furnaces. The heat from these is drawn through the driers by a 10-foot fan; the air which is to be heated being first sucked through the bucket elevator which carries the material from the shredding machine. This heated air is then forced through the shafts and ducts in which all of the succeeding conveyors and elevators travel, the air being finally delivered to a converter placed over a furnace in the west end of the building. The converter is a wrought-iron cylinder lined with firebrick and containing 18 flues through which the impure air passes, the flues being heated by gases from a furnace which pass through the cylinder outside of them. From the converter the heated air passes through a furnace where the fire is sufficiently hot to consume all gases and odors. In remodeling the plant this summer additional provision against nuisance was made, and the gases issuing from this furnace are sprayed with a large amount of water on their way to and through the smoke stack.

The garbage which is taken from the driers goes to a series of extracting tanks, where by the use of naphtha most of the greases are separated out. Each of these extractors is a horizontal steel tank 10 feet long, 6 feet wide and 8 feet high, and is divided into two parts internally by a screen about 2 feet above the bottom. An opening in the top of the extractor permits the garbage to be admitted from an overhead bin. A cover is then screwed on and the naphtha is sprayed onto the contents until they are entirely covered. By means of arms on a horizontal shaft carried through the extractor, the dried garbage and naphtha are thoroughly mixed, permitting complete removal of the greases. The liquid is then drawn off at the bottom, the solids being retained by the screen above mentioned, and is carried to two tanks where any sediment which may have come over with the liquid is deposited. The solid matter left behind in the extractor is then heated and agitated

NOVEL DETAILS IN FILTRATION

Intermittent Use of Compressed Air and Water Secured from
Continuously Operated Power Plant—Economy Thus
Obtained—Repeated Use of Wash Water



EXTRACTOR TANKS AND BIN HOPPERS

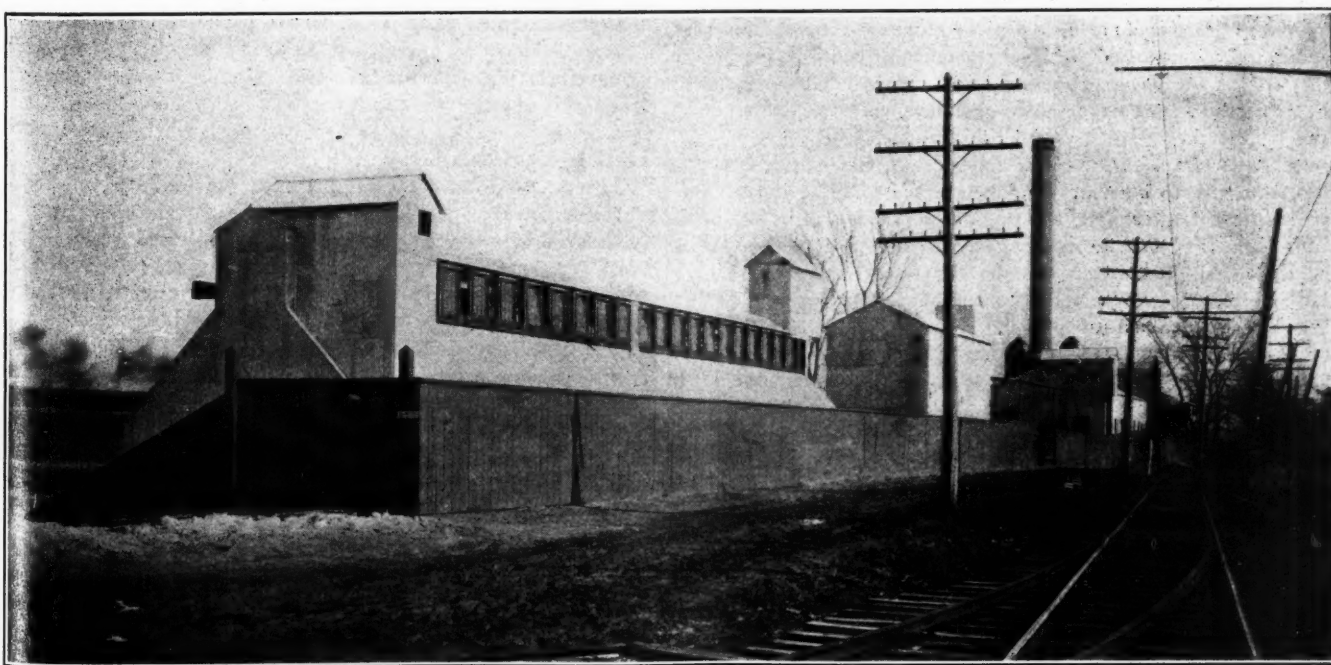
to vaporize any remaining naphtha, steam coils in the extractor being used for this purpose. The mixture of naphtha and grease is drawn from the sedimentation tanks to two closed heating tanks, where this also is heated by steam coils and the naphtha vaporized. The residue is commercial grease, which is conducted to storage tanks ready to be shipped. The vaporized naphtha is condensed by a water-cooler condenser and thence passes to underground storage tanks about 200 feet from the building, from which it is withdrawn to be used again. The tankage left on the extractor screens is discharged through one end of the extractor into a chute and through this to conveyors and an elevator which raises it to the storage bins in the warehouse. This warehouse is provided with both overhead and underground conveyors arranged to facilitate feeding the tankage directly into railroad cars which can be run alongside the building on a special switch.

The grease is raised from the tanks before mentioned into tank cars on the switch by means of a pump especially designed for this purpose. The grease from the sump in the storage pit is skimmed off and added to the commercial greases. The water from this sump and other waste and foul waters from the plant are passed through a slow sand filter. It is specified that the room in which the first garbage treating machinery is located shall be disinfected at least once a day by spraying over it some liquid disinfectant; also that the tank cars be washed with water and steam and disinfected each time they are emptied.

OWING largely to somewhat unusual local conditions, the mechanical water filtration plant which is now under construction for the city of Wilkesburg, Pa., contains some features which it is believed are novel and which certainly offer suggestions for other plants similarly situated. These features, together with a general description of the plant, were given in a paper read before the Central States Water Works Association by Mr. F. B. Leopold.

The ultimate capacity of this plant will be 20,000,000 gallons, but the present construction in many details provides for 10,000,000 only. The water company already possessed a distributing reservoir some 450 feet above the pumping station and secured the supply by pumping from the Allegheny River. Owing to the fact that it was not thought desirable to lose any of the available head, it seemed necessary to utilize the existing reservoir as a clear water basin, which necessitated building a filter plant higher than this and practically all above ground. The plant consists of two reinforced-concrete sedimentation basins, each holding about 1,500,000 gallons of water. The walls and bottom rest upon an excellent foundation of shale rock. The filter equipment is of the usual general standard type, using separate water and air manifold systems. The purified water is discharged through controllers into a concrete conduit which conducts it to the present reservoir by gravity. The unusual features were described by Mr. Leopold as follows:

On account of the isolated position of the plant, the power conditions were a matter of considerable study. It was not desired to build an independent power station at this point, as this would necessitate the hauling of all fuel for three miles up a very steep hill, and in winter time over exceedingly bad roads. The conditions of the use of power at the filter plant require a maximum of power in use a few minutes at a time periodically, which would not be a very economical arrangement. After considerable study it was determined to place a generating plant in the pumping station, about a mile distant, and carry an electric current over a transmission line to the plant to operate the wash pump, blowers and other power requirements; and in order to secure the most economical installation of the plant, it was determined to so design it as to distribute the direct use of power over a considerable period of time. This



EXTERIOR VIEW OF GARBAGE REDUCTION PLANT

would necessitate the storage of both water and air, and to do this economically required the storage of these at a pressure or elevation practically the same as that which would be given them by machinery used in direct application. It was finally determined to use for the water a storage tank of considerable area so that the pumping head would be very little, if any, above that which would be required in washing the filters by direct pumping.

In the matter of air storage, the previous methods of effecting this have been by the use of pressure tanks, into which the air is forced under high pressure, which is then reduced to that required for use in the filters. This, of course, is an enormous waste of energy; and in studying this question it was ascertained that a method had been devised for the very scheme that would accomplish that process and a patent applied for. Arrangements were, therefore, made for the use of this contrivance, which consists of an inverted tank on the order of a gasometer, weighted sufficiently to produce the pressure required in the filter beds, the tank being made of such capacity as to give the required amount of air. A further study of this idea revealed the convenience of utilizing the water tank as a seal tank for the air tank. A combination was, therefore, designed, using an inverted air tank on top of the water storage tank.

A small generating plant is to be installed in duplicate at the pumping station, which will be sufficient to furnish power to operate all the motors at one time. This plant will need to be only about one-third the size of a plant which would be required to operate wash pumps and blowers of sufficient capacity for direct service. Such an arrangement results in a very uniform draft on the power station, a more economical use of power, and some economy in the cost of installation. The small pumps for supplying the wash water to the wash-water tank and the air to the air tank will be designed to operate about 50 to 75 per cent of the time, and will be arranged to operate automatically, so that during the washing of a filter, when the water level falls a few inches in the storage tank, the motors supplying the wash water, if they are not already running, will be started automatically and will continue to operate until the level is brought up to its normal, when the automatic switch will cut them out. The same arrangement will be applied to the air storage tank, which is designed for volume and not pressure. The motors, therefore, require no care except to see that they are kept in condition to operate with certainty.

As the plant is located above the point from which water pressure is secured and hydraulic valves are in use, it, of course, becomes necessary to provide pressure for the hydraulic valves; this is done by a small automatic control pressure pump and a surge tank which automatically controls the pressure of the operating cylinders of the valves. These features as far as the writer's experience or knowledge goes, are unique, and it is believed that it is their first application.

In connection with the plant, and located immediately beyond it, there will be built a round reinforced-concrete basin into which the water from the washing of the filters will be drained. This basin is of such capacity as to provide several hours' sedimentation, so that, after washing the filters, the wash water carried into this basin will have an opportunity to settle, the heavy accumulations going to the bottom. The bottom of this tank slopes to the center, and an outlet standpipe is placed near the center, so arranged as to drain the water down to within 4 feet of the bottom. To the outlet from this will be connected an electric pump which will take the settled water so drawn off and pump it back into the sedimentation basin. In this manner it is expected to give the highest economy in the use of the wash water. The high head against which all the water is pumped is, of course, the only condition which would make for economy in an arrangement of this character; but it is believed that the saving that will be accomplished in this manner will more than justify the expense of the necessary structures for accomplishing it. This again is a novel and new feature, and we do not know that it has been attempted on any other plant.

STREET WORK IN NEW BEDFORD

Cost of Curbing, Gutters and of Various Kinds of Paving and of Stone Crushing—Details of Sewer Construction and Cost—Dust Laying

THE report for 1908 of the Superintendent of Streets of New Bedford, Mass., Mr. C. F. Lawton, contains in unusual detail not only information concerning the cost of all complete improvements, but unit prices have been worked out in most cases. Apparently the Superintendent of Streets also has charge of the sewer work of the city and details of this work also are given in the report.

The city contains 153.32 miles of accepted streets, of which 5.87 miles are paved with granite block, 0.45 with asphalt block, 0.35 with sheet asphalt, 2.91 with bitulithic, 0.34 with brick, 12.73 with cobble, and 70.58 with macadam; these comprising about 60 per cent of the total mileage of accepted streets.

During the year 14,605 feet of new curbing was put in at an average cost of 83.3 cents per foot. This, we believe, was all stone curbing. Of new gutters, 22,405 feet were constructed having an average width of about 3½ feet, the cost of which was 26.6 cents per linear foot. Of granolithic sidewalks 7,676 square yards were constructed at a cost per square yard of \$2.018 (about 22.4 cents per square foot).

The town maintains three stone crushers, which during the year crushed nearly 70,000 tons of stone. About 10 per cent of this was obtained from the streets or other city works and the remainder was purchased from various parties. The latter cost an average of 69.63 cents per ton. That obtained from the city cost (presumably for hauling and labor) 35.51 cents per ton. The average cost of the three crushers for crushing this stone was 32.47 cents per ton. The total cost to the city of the crushed stone, being the average of all crushers and of the stone purchased and also that obtained from city streets, was 98.54 cents per ton.

The cost and other details of the construction of the various kinds of street paving during the years 1903, '04, '06, '07 and '08 were as follows, the prices, etc., being given for the several years in the order named:

Macadam, cost per square yard, 46.3 cents, 47 cents, 47.5 cents, 53 cents and 54 cents. Average tons of stone used per square yard, 40.7, 35.2, 35.7, 32.3 (1908 not given).

Macadam rebuilt, cost per square yard, 42.2 cents, 38.3 cents, 41.8 cents, 50.3 cents, 44.9 cents. Average tons of stone used per square yard, 30.9, 27.0, 29.8, 30.5 (1908 not given).

Bitulithic, \$2.26, \$2.22, \$2.40, \$2.264 (none laid in 1906).

Granite block on gravel cost \$2.50 per square yard in 1903, since which time none has been laid. Granite block on concrete foundation cost \$3.11, \$3.12, \$3.23 and \$3.713, none having been laid in 1907. Cobble was laid in 1904 only, when 810½ square yards cost 40 cents per square yard.

Gutters cost for the several years, per square yard, 74.1 cents, 66.1 cents, 76.4 cents, 75.2 cents and 66 cents. Curbing cost per foot during the several years as follows: 70 cents, 80 cents, 79 cents, 87.1 cents, 83.3 cents. Of these curb costs the stone cost per foot 52 cents during 1903, '04 and '06, and 55 cents in 1907 and 1908; the cost per foot for labor having been 18 cents, 28 cents, 27 cents, 32.1 cents and 22.7 cents, respectively. (The discrepancy between the total cost given for 1908 and the sum of the costs of stone and labor is not explained).

The only treatment of macadam road which is mentioned in the report is the use of Dustoline as a dust layer. During the year twelve cars of Dustoline were used, the first being applied June 6 and the last car August 14. On some streets only one application was made and on other streets two applications; the former totaling 27.207 miles and the latter 8.939 miles. The interval between the first and the second applications was 67 days. The total amount used was 100,501 gallons, which cost \$7,504.70 for material and \$67.96 for distribution. The number of gallons per mile of road, one application, was 2,229 and the cost per mile of road per application was \$176.84, or 11-3 cents

DETAILS OF SEWERS CONSTRUCTED IN 1908 IN THE CITY OF NEW BEDFORD. COMPILED BY THE ENGINEERING DEPARTMENT

[illegible]

per square yard. One car of Dustoline had been used in 1907 as a trial, and the experience then and in 1908 is reported by Mr. Lawton to have given universal satisfaction to the residents on those streets where it was used.

The Legislature of 1908 passed an act giving New Bedford permission to sprinkle its streets with oil or any other substance and to assess the expense in whole or in part upon the abutters. The Street Superintendent considers that "It would certainly be unfortunate if the city did not take advantage of this privilege and establish the practice as a regular part of the maintenance of its roads."

The accompanying table gives the cost of sewer construction during the year in much greater detail than is usual in city reports; the principal items of information which would be desirable but are lacking being the kind of soil excavated in each trench and whether or not water or other difficulties were encountered.

ROADWAY AND SIDEWALK WIDTHS

THE Board of Estimate and Apportionment of New York City considers it desirable that the various boroughs of the city adopt a uniform rule for fixing the widths of roadways and sidewalks, and has proposed the following as the rules under which the streets should be in the future designed.

These rules call for the roadway between curbs to be of the full width of the street (less the space occupied by the curb) where the street is less than 20 feet wide. For streets between 20 and 50 feet wide the roadway is 60 per cent of the total width of the street; except that in streets where there is a single-track railroad the minimum roadway width is 30 feet, and where there is a double-track railroad the minimum roadway is 40 feet, these exceptions applying also to streets of all widths. In streets from 50 to 60 feet wide the roadway is 30 feet wide. In those from 60 feet to 66 feet 8 inches the roadway is one-half the total width of the street. In streets more than 66 feet 8 inches wide the roadway is 80 per cent of the street width, less 20 feet.

These rules are for streets having sidewalks on both sides of equal width; consequently, the sidewalk width would be one-half the difference between the total width and that of the roadway. These widths are shown in tabular form as follows:

Roadway and Sidewalk Widths for Various Widths of Street

Street Width	ROADWAY WIDTH			EFFECTIVE SIDEWALK WIDTH		
	Street Not Occupied by a Railroad	Occupied by Single-Track Railroad	Occupied by Double-Track Railroad	Street Not Occupied by a Railroad	Occupied by Single-Track Railroad	Occupied by Double-Track Railroad
20	12			4		
30	18	30		6	0	
40	24	30	40	8	5	0
50	30	30	40	10	10	5
60	30	30	40	15	15	10
70	36	36	40	17	17	15
80	44	44	44	18	18	18
90	52	52	52	19	19	19
100	60	60	60	20	20	20
120	76	76	76	22	22	22
150	100	100	100	25	25	25

The rules call for curved curb corners at street intersections where the interior angle is 30 degrees or more, the radius of such curvature to be either 5, 6, 8, 10 or 12 feet. The radius to be used is determined for each case as being that which is nearest to being 10 per cent of the width of the wider of the two streets intersecting; provided, however, that in case the interior angle is less than 80 degrees, the radius is to be not less than 20 per cent of the distance between the building line corner and the point of intersection of the curb tangents. Where the interior angle of intersection is less than 30 degrees, instead of one curve a piece of straight curbing is inserted between the two curb lines and at right angles to the line bisecting the interior angle; such piece of straight curb being at a distance from the building line corner (measured along the bisecting line), equivalent to the width of the wider sidewalk of the intersecting streets; curves having a radius of 6 feet to connect this short tangent with the two main curb lines.

"It is to be expected that cases will frequently arise requiring independent treatment to avoid unnecessary damage to existing improvements and it should be understood that special ordinances could be adopted for each. Such ordinances could also be used to govern street improvements where it was not desired to include the entire width of the street, and by adopting this method it would be possible to exclude from an improvement a portion of the sidewalk space adjoining the street line, thus practically accomplishing the same result as was proposed under the original ordinance in the permission to property owners to retain such a strip for park treatment."

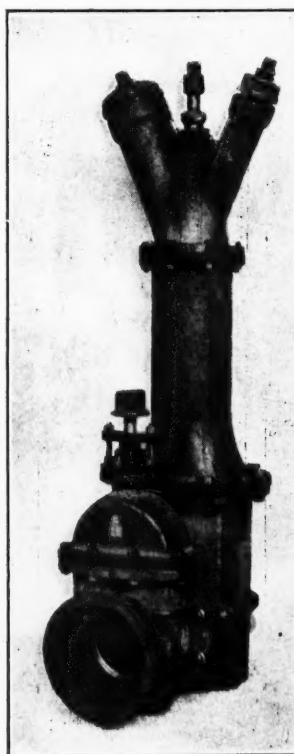
INADEQUATE WATER WORKS

Of a city of approximately 50,000 population in the central part of the country, it is stated, in a recent report of the National Board of Fire Underwriters: "The city has outgrown its water works and immediate steps should be taken to secure an additional supply of unquestioned reliability with radical improvements in the distribution system. The present works are the outcome of successive additions to an inferior system, without any regard for the future. Over three-fourths of all mains are 6 inches or less in diameter, and over one-fourth are 4 inches or less. Many of the latter are in important districts. To properly supply hydrants the 4-inch and smaller mains are of practically no value, and even 6-inch mains, unless cross-connected with larger secondary feeders at frequent intervals, and with dead ends eliminated wherever possible, cannot be considered satisfactory.

"The system is so poorly supplied with gate valves that in many sections a break would not only necessitate shutting off mains in an unusually large area, but also involve the closing of many valves which would cause an unnecessary delay, during which the supply of the whole city would be seriously affected."

This is, we hope, an extreme case of the haphazard growth of an originally inferior system. Such a condition is doubly unfortunate, since not only is the system inadequate, but it is so completely so that entire reconstruction would appear to be almost the only remedy. This unfortunate condition certainly points to the poor economy of too much parsimony and too little foresight in the construction of plants, even for small communities.

AN UNDERGROUND FIRE HYDRANT



THE fire hydrant which is illustrated herewith is one of the type used in a number of Cuban cities, which are set entirely underground in hand holes, the covers of which are set flush with the street surface. When used the cover is raised and the hose or steamer suction attached to the nozzle, which is just below the surface. The absence of frost and snow in warm climates makes these more practicable there than in northern cities, although Boston has for years used a style very similar, known there as "flush hydrants." The particular advantages are that they offer no obstruction to traffic, are not liable to be injured or tampered with, and are not objectionable from an esthetic point of view, as are most post hydrants. This particular hydrant is one of a large order manufactured by the Chapman Valve Manufacturing Company for the city of Cienfuegos, Cuba.

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It is further requested that our Subscription Department be notified if copies are not received promptly.

Readers are invited to contribute to the MUNICIPAL JOURNAL AND ENGINEER, either in the form of special articles or of letters discussing matters of current interest.

It is also desired that the facilities furnished by the reference library in this office should be widely known and freely used by those interested in municipal affairs. Visitors will be welcomed and provided with conveniences for search, and inquiries by mail will be promptly dealt with.

OCTOBER 13, 1909.

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Rules for Street Widths

On another page of this issue are given the rules proposed for apportioning the street widths to roadway and sidewalk spaces in New York City. Last week we published a study of the conditions which should control the fixing of roadway widths. These two may seem to disagree in many respects, but it should be borne in mind that the Boston report considered what width would be desirable, regarding only the traffic and assuming that the total street widths would be increased if necessary, while the New York rules were based on the present widths, which, it is assumed, will be changed only in very exceptional cases. The former is, therefore, of most value in deciding, when planning a street, what width to give it; the latter,

in subdividing space already fixed or decided upon into roadway and sidewalks.

In a large metropolis it is, of course, necessary that much of the work be done according to general rules and schedules determined and established by the heads of the several departments or others in authority. But it seems unfortunate, and we can hardly see that it is necessary, that the same rules for subdivision of street areas should be applied to a business thoroughfare in Manhattan as to a residence street in a rural suburban settlement in the midst of the farms of Queens Borough. It is true that provision is made for special ordinances to meet special conditions; but the annoyance and delay involved in obtaining the passage of such ordinances, and the common lack of appreciation of the conditions under which a different plan should be followed, will operate against departure from the general rule, we fear.

Even in the one borough of Manhattan the wholesale warehouse district, the retail shopping district, the main thoroughfare and the side residence street, all have different conditions of wheel and foot traffic, and we cannot believe that one rule can be best adapted to all such conditions. Moreover, the monotonous uniformity of city streets is oppressive enough without increasing it not only unnecessarily, but even against economy. Let us give variety and a personality to at least some of our residence streets.

Encouraging Increased Water Consumption

MUCH has been heard at conventions and has appeared in the technical press during the last few years concerning the desirability and methods of reducing water consumption. It was, therefore, something of a novelty when, at the recent convention of the Central States Water Works Association, Mr. A. L. Holmes, of Grand Rapids, prefaced a paper with the statement, "I take it that every one within the sound of my voice . . . is interested in increasing the consumption of water in his locality." But, though novel, this idea is but the logical corollary to the oft-repeated assertion that water works, whether private or municipal, should be run on a strictly business basis. Merchants dealing in other goods endeavor to stimulate as far as possible the consumption of those goods, because the larger the sales the greater the profits. Looked at in this light, there would seem to be no reason why the same should not apply to the sale of water. If a company or a city is dealing in water on a profitable and businesslike basis, the more it sells the greater should be its profits.

Either there is a flaw in the above argument or the ordinary methods of managing water works companies and departments are unbusinesslike. The flaw, if it may be called such, lies in the assumption that the unit of sale of the water is the quantity of the material delivered; and this is the case only where water is sold by meter, and with no minimum charge, or a very low one. The old method, and one still in very common practice, is to charge so much per fixture. There are, however, many kinds of fixtures, so a price must be set for each. It is also apparent that certain classes of users will obtain more water per fixture than others, so an effort is made to classify all possible users and arrange rates for each class according to somebody's guess as to the relative amounts of water which the several classes will use. We do not suppose that even the originator of any of these schedules would be so bold as to claim that these rates represent anything like the exact ratio between the quantities of water to which they are applied, or at least that any definite figures had been obtained on which to base such rates. We believe that in the majority of cases such a schedule is worked up by copying that of some other city or company, or, at the most, by preparing a composite of several such schedules, the weight given to each being dependent upon the more or less experienced judgment of the compiler.

The more we examine into such an unscientific method of selling water the more its inconsistencies and absurdities become apparent. The water company does not sell faucets or bath tubs, but water; its charges, therefore, should be based on the amount of water sold. But the number of fixtures would

not be even an approximate measure of this, unless each were running continuously at full capacity. As a matter of fact, one householder, with an eye to economy, could obtain more water from a single faucet than the average citizen uses through all the plumbing of a house provided with all modern conveniences. These facts are being realized more and more generally, and the sale of water by actual measurement, rather than by incongruous and complicated guesswork schedules, is becoming more and more common.

Given now a city or company which is selling water by quantity, unless there are other conditions which differentiate it from other businesses, it will be to its advantage to foster the use of water as much as possible. Such a difference would seem to exist only when the rates do not furnish a profit; in other words, unless the price asked per gallon of water is less than the cost of furnishing the same.

And here arises a point which has not yet been given sufficient or sufficiently general consideration and study. The majority of even private plants, as well as municipal ones, decide their rates by one of three methods, or a combination of all, these being: The rates charged in nearby cities; the highest rates which can be charged without causing a dropping off of consumers, or those rates which will yield such total net profit as will pay a predetermined dividend on the stock. Each of these undoubtedly should have its weight in a calculation of the rate; and yet the determining factor should, in our opinion, be none of these, but should be based upon a careful study of the details of the cost of furnishing the water. These costs are some of them independent of the amount of water furnished, while others are directly dependent upon this. Again, certain of the charges are incurred solely for some specific purpose, or purposes, and should not be charged against the general consumer. Among the first are the salaries and other expenses of the general management of the plant; the cost of furnishing, maintaining and reading the meters; the cost of providing the pipe by which the water is brought to the premises, etc.

Among the specific functions which should not enter into the general rates, the chief is that of fire protection. Assume a plant in which no provision whatever was made for furnishing fire protection—this would affect the details of the pipe line, the pumps, reservoir, the standpipe and almost every feature of the equipment. The difference between the cost of such a plant and the plant actually constructed should be charged against those who benefit by the fire protection. Moreover, certain items of maintenance are essential which would not be required in the case of a plant not built and operated to furnish fire protection. These maintenance charges also should be paid by those profiting by the protection. Those who profit are the owners of property, either real or personal, within the city limits, and they profit in proportion to the value of such property. Consequently, these expenses should be paid from the general taxes, and not by the consumers, as such. It can probably be considered as a general proposition that from 30 to 50 per cent of the construction cost is occasioned by the necessity of furnishing such fire protection, which would mean that approximately this percentage of the interest, depreciation and sinking fund charges should be met by the city.

The cost of making a house connection and installing a meter may be charged directly to the consumer; or a sufficient interest, depreciation and sinking fund charge on this included in his rate, this in the latter case forming a part of the minimum rate. Another part of such minimum would be a charge of so much per month for reading the meter and for clerical work involved in keeping the account. The actual cost per gallon of furnishing water, confining this to such expenses as increase or decrease with the amount of water furnished, should be determined with exactness, and be used as the basis for the variable amount of the rate. There will be found on the borderland between these two a considerable number of items which will be more difficult to classify. The interest and depreciation charges for the pumping machinery will remain practically a fixed sum as long as the capacity of the machinery

is not exceeded. Should these be included in the fixed or in the variable part of the rate? In the case of a gravity supply, what item should be included in such variable portion, or would all the items be fixed? That an answer to these questions is not immediately self-evident is no argument that the general method here outlined is not correct. As a matter of fact, even a snap judgment on these is more likely to be logically defensible than any guesswork schedule.

The expression "minimum rate" was used above, but it would appear from this line of argument that there should be no actual minimum rate, but, rather, that each rate should be composed of a fixed and variable part. There may, however, be other reasons for modifying this conclusion. There may be some foundation to the argument that without a minimum rate certain consumers will be too economical in their use of water from a sanitary point of view, and should be encouraged to use the same more freely by charging them for such a given amount as is considered necessary, whether they use it or not. This, however, need not interfere with the fixing of rates by the method here outlined, but may be simply added as an additional condition, just as a dam whose thickness theoretically should come to a mathematical line at the water level is constructed with a certain fixed thickness down to the point where theory demands that this be increased.

When rates are fixed in some such way it will be time enough for managers to work up a business for water consumption, as electric and gas companies now do for lighting, heaters, etc., and we may then see the adoption of some of Mr. Holmes' ideas along this line, such as the encouraging of large lawns in order that the amount of water used for sprinkling may be increased; the discouraging of tarring and oiling roads so that water sprinkling may not go out of fashion, and agents of water companies and of water departments going from house to house to introduce the use of water motors for washing machines, as well as of shower baths and other plumbing conveniences. On the other hand, we may find consumers interested in appliances for diminishing waste and increasing efficiency, such as self-closing flush-tank valves which close, and cooling water by ice instead of letting it run for some minutes.

If any manager does not know whether the profits of his department would be increased or decreased by an increase in the quantity of water used at meter rates, he had better take measures to find out at once; for of such incompetents are our inefficient municipal governments.

OWNERSHIP OF SEWERAGE SYSTEM

THE following letter was received by a correspondent, who has forwarded it to us with a request for information on the subject. He states that he understands that there has never been any transfer of the sewers made from the Land Company to the Village.

While the subject is one, we would think, for lawyers to settle, the dilemma of the village may serve as a warning to others to make sure of the settlement of the status of privately owned public utilities when incorporating or taking over highways or other land in which they are located:

Dear Sir:—

A matter has come up before our Village Board upon which they are unable to decide without further information.

It is as follows: The village in the first place was laid out and platted by a land company, which also built at that time a sewerage system. A few years later, in 1903, the said plat of the land company was incorporated into a village under the State laws.

Now the question of the ownership of the sewerage system arises. It has been understood up to this time that the land company claimed ownership, but at the present time property owners near the outlet of sewer have commenced litigation on account of the odor from said sewer outlet.

The Village Board instructed me as Clerk to write to Clerks of other cities and villages which I thought might have had a similar case and find out just how the matter of sewerage system was taken care of. That is, whether same became the property of village at time of incorporation or not.

Thanking you in advance for any information which you can give me on this matter, I am,

Village Clerk.

NEWS OF THE MUNICIPALITIES

Current Subjects of General Interest, Under Consideration by City Councils and Department Heads—Streets, Water Works, Lighting and Sanitary Matters—Police and Fire Items—Government and Finance

ROADS AND PAVEMENTS

Quality of Wood Blocks Investigated

Atlanta, Ga.—The Southern Wood Preserving Company has filed notice of a \$10,000 damage suit against R. S. Manley, manager of the Gulfport Creosoting Company, who wrote to the city officials that the blocks furnished by the former company for paving were not in accordance with specifications. At the hearing before the Council committee Manley testified that 15 out of 20 blocks floated. A. J. Higgins, a lumber inspector of Mobile, testified that the blocks were not of first-class pine. Dr. F. P. Smith, chemist, New York, N. Y., showed how he had bored into and analyzed samples from five blocks and found them to contain from 13.93 to 15.66 per cent creosote oil. He admitted that he had bored the holes through the center of the blocks and that if the borings had been taken from nearer the outside they would have showed a higher percentage of creosote. Another lumber inspector said the blocks shown him were of first-class pine. W. P. Heath, of the Pratt laboratory, employed by the city, said he had made daily reports of the blocks. He said that the creosoting process was tested by measuring the creosote that went into the tank where the blocks were and then measuring what came out. He testified that by this test 20 per cent went into the blocks as a batch. It is impossible, he continued, to make each separate block hold 20 per cent, for the soft and porous blocks will take more oil than the hard blocks of heart pine.

Contractors Tell About Street Bids

Cincinnati, O.—The conference between the Board of Public Service and paving contractors regarding the difference in bids for the granite paving of McLean avenue as compared with those for Front street developed the following facts: It was shown that McLean avenue is near a good dumping place; nearer the plants of contractors; hauls would be short; there is material in McLean avenue that, when taken out, would be of value. In the case of Front street these conditions are reversed. Besides, there has been an advance of \$1 a ton for granite blocks and labor has advanced from \$1.20 to \$2 a day. Water transportation was given as the cause of lower prices for granite, on the other hand, in some Eastern cities. It was denied that there is a combination between granite men. Attention was called to the fact that all bids were under the estimate of the engineer. It was said that, because it was heralded that much work would be done in Cincinnati in consequence of the bond referendum, a number of new contractors had come into the city. Contractor Kirchner, who got the McLean avenue job at the lowest figure ever obtained in Cincinnati, said he would insist on starting to work this fall. Contractors who spoke were Kirchner, Sullivan, Quill and Henkel.

Ohio State Highway Work

Columbus, O.—The contracts let by the State Highway Department in 1908 amounted to 25.69 miles of macadam and 7.17 miles of brick pavement. This year there will be 42.69 miles of water-bound macadam, 5.47 miles of tar-bound macadam and 20.36 miles of brick pavement. This increased construction has been accomplished with a State appropriation of practically the same amount as last year, the only increase being a sum of about \$46,000 from the automobile tax.

Rock Used on Streets Must Stand the Test

Dallas, Tex.—Rock that will not show an abrasion of more than 6 per cent must be used in surfacing bituminous pavement in Dallas. This was the position taken by Mr. Doran in a conference with officials of the Texas Bitulithic Paving Company, and they indicated that they would use such rock, but may be required to make their bids higher hereafter.

Fault Lies in Specifications

Tacoma, Wash.—Payment for a street paving contract completed by the Barber Asphalt Paving Company had been withheld pending a report on its chemical composition by City Chemist E. O. Heinrich. According to the property owners' view, the pavement is defective because they can see holes in it and wagons tear it up. The chemist reports that the pavement mixture is in accordance with the specifications. Furthermore, he says the specifications are not at all what they should be and do not clearly define a proper paving mixture.

No Sidewalk Wanted

Toledo, O.—The accompanying illustration shows a residence street in Toledo with no sidewalk. The grass plots are carried right down to the curbing. Residents use the sidewalk on the opposite side of the street.



Courtesy Toledo Blade

STREET WITHOUT SIDEWALK

Fort Worth Regulates Street Traffic

Fort Worth, Tex.—It is a matter of only a few weeks until Main and Houston streets will be cleared of all hitched horses and vehicles throughout the day and thus present something of the orderly appearance that prevails in real cities. At a regular meeting of the City Commission the city fathers ordered Corporation Counsel W. H. Slay to draft an ordinance making it an offense to allow horses and vehicles to stand on either of the two main thoroughfares of Fort Worth. Autos and vehicles in which there are drivers who remain in them while they are stopped will be permitted to remain for short periods, but the ordinance will provide also that the "white wings" will have authority to demand that the vehicles or animals be moved out of the way of their work. The unloading of merchandise will also be prohibited on the two main streets, this being at present one of the most frequent and most objectionable forms of street blockade. Persons will be allowed the privilege of hitching their animals and stopping their machines on the side streets, but the "white wings" will have the power to order the removal of any obstructions on these streets, and any one refusing to comply with their orders will be deemed guilty of a misdemeanor. This ordinance, when enforced, will lessen the labors of the street men by fully a third, it is estimated by Commissioner Maddox, who suggested the ordinance.

Firm Protests Against Ameisite

Paterson, N. J.—At a meeting of the Road Committee of the Board of Freeholders, when bids were received for laying ameisite or other pavement on Union avenue, a letter protesting against the use of ameisite was received from Warren Brothers, Boston, Mass. The communication stated that ameisite is an infringement on a patent secured by Warren Brothers many years ago, and they therefore objected to any firm laying it.

Municipal Plant Fails to Co-operate

Detroit, Mich.—Lafayette Boulevard is a light traffic street leading from the center of the city to the outskirts, and is under the jurisdiction of the Park Department. The old asphalt surface was in bad condition, and the Park Department requested the Public Works Department to resurface it with asphalt from the municipal plant. Much work had to be done, however, in the way of resetting, curbing and patching up the concrete. Not being familiar with this class of work, the park forces did not make good progress and did not finish up work so that the asphalt work could begin. When the street was ready—it was first torn up in July—the municipal asphalt gang was busy elsewhere. The result is the street is not paved yet.

Old Asphalt Will Be Used

Omaha, Neb.—Old asphalt taken up from the street will no longer be thrown away as waste, but used to surface boulevards and for light repairs if plans now being worked out in the City Engineer's office prove feasible. City Engineer Craig, Assistant Engineer Campen and Dean Noyes, of the Engineer's force, have for some time been working on a scheme whereby old asphalt can be ground up and mixed with a very small quantity of fresh material and put back on the street again. Mr. Campen is authority for the statement that the plan now seems likely to succeed. A saving of about 80 per cent in material and of thousands of dollars every year will be the result if it does. Some time ago the Engineer's office without expense secured the loan of a crusher from Paxton & Vierling. The crusher is now being set up at the asphalt plant. The next step will be to make a mixer which will mix the old asphalt with about 1 per cent of new material. When this is accomplished the mixture, it is asserted, will give as good service for boulevard and other light use as all new material. Mr. Campen has just learned that such a mixture has lately been put in use successfully in Chicago. He will investigate, and hopes in a short time to have enough of a plant in operation to utilize the old material taken up from the streets this fall.

SEWERAGE AND SANITATION

Big Sewer Cave-In

Alexandria, Va.—A cave-in occurred on the big trunk sewer constructed to drain the western area of the city. The cave-in extended for about 100 feet. Considerable damage was done to the Washington, Alexandria and Mount Vernon Electric Railway's tracks and cars had to go by another line. About a week's work was required to make all damage good.

Plans City Fly Catcher

Cincinnati, O.—Councilman Robert J. O'Brien, who has introduced a number of unique ordinances, announced that he has another law ready to be enrolled on the city's books. This time he provides for a public "fly catcher," whose duties will be to rid the city of flies. If the ordinance be passed by Council the fly catcher's field of operation will be in the large slaughter house district of the city. Just how he is to catch the flies the ordinance does not explain.

Sewerage Company in Trouble

Collingswood, N. J.—Through a petition presented to Prosecutor Scovel by residents near the disposal beds, the Camden County Grand Jury has returned an indictment against the Collingswood Sewerage Company, charging it with maintaining a nuisance. It is alleged that gaseous odors emanating from the plant are a menace to health. Mayor Collings is president of the company. The State Board of Health some time ago ordered the company to change its plans, but the order was ignored.

Faults in Sewerage System Found

Reading, Pa.—The investigating committee probing into the departments of the city government took up the subject of sewers. Evidence was presented to show that in many instances where the maps showed branches put in for house connections they had not been put in. Buckets under perforated manholes were omitted in many instances. Cave-ins and blocked sewers had resulted from faulty joints between pipe.

Public Warned Against Buying Food Contaminated by Flies

Chicago, Ill.—The Food Inspectors are reporting many of the stores—particularly those handling bakery goods, fruits and candies—as inadequately screened against flies. At this time of the year every fly may be a typhoid carrier, especially in the neighborhoods where typhoid fever exists. The Department spot maps show that the cases of typhoid fever in the city at the present time are spread more or less uniformly throughout the city. This means that it is necessary to protect foodstuffs from flies throughout the entire city. Inasmuch as it is a difficult matter to reach and compel all dealers in the city to comply with the regulations of the Department concerning the screening of foods, the public is warned against the buying of foodstuffs that may have been contaminated through contact with flies.

Flies Blamed for Typhoid

Salt Lake City, Utah.—Flies are blamed for the typhoid fever epidemic in Salt Lake City, according to a report by Dr. T. B. Beatty, secretary of the State Board of Health, filed with Walter J. Frazier, City Dairy and Food Commissioner. Dr. Beatty takes the position that the epidemic did not originate with the Moss Brothers' dairy at Wood's Cross, but that it was probably spread from there. A boy in the station agent's house was taken down with typhoid fever several weeks before. Mrs. Steve Moss and Dr. Beatty hold that this probably started the epidemic, the typhoid being carried to the Moss residence through the medium of flies.

Progress in Purifying the Delaware

Easton, Pa.—An agreement has been signed between the State Department of Health and the City of Easton by which the latter agrees to construct a sewage disposal plant. This will deprive the city of Phillipsburg, N. J., of its argument against building a disposal plant that its neighboring city above had none. The City of Easton was brought into line by the refusal of the State Board of Health to permit extensions of sewers which are now imperative. This action will be of great benefit to Trenton, which obtains its water from the Delaware.

For Cause of Typhoid

Jefferson, Mo.—Two members of the State Board of Health have been here for the past two days and have inspected the water supply, the milk supply and the plumbing of the hotel from which, it is alleged, 25 people went after Labor Day, later on developing typhoid fever. The analyses are not yet finished, but so far the State Inspectors have not found any sign of pollution in either milk or water, or any defects in the plumbing. There are 75 guests in the hotel now, and the proprietor said that none of the people staying for long time has been taken sick. The typhoid was apparently altogether among the transients.

Sewers Faulty, but City Must Pay

Millville, N. J.—At a meeting of the Council the trouble between the Sewer Committee and B. F. Sweeten & Sons, contractors, who laid the sewerage system six years ago, was aired. The committee claims that owing to faulty construction the sewerage pipes are being clogged by fibrous roots, but that the contractors refuse to be in any way responsible for the trouble. The time for the rejection of the system has expired and counsel has notified the Council that it must pay the balance of money due the contractors. The contracting firm claim interest on the money, but this Council declines to pay, and the balance will be tendered to Sweeten.

Typhoid in Pottstown Water

Pottstown, Pa.—Becoming alarmed over the increasing number of typhoid fever cases, the number of which is now eight, President Todd of the Board of Health has issued a warning to all residents to boil their water for domestic purposes. The water company supplying the town has a filtration plant.

Meat Must Be Inspected

Salt Lake City, Utah.—The ordinance passed some time ago about the inspection of meat has gone into effect and hereafter all fresh meat sold in Salt Lake City must bear the stamp of either Government or city inspectors.

WATER SUPPLY

Wells Being Cleaned

Dayton, O.—The annual cleaning out of all the wells furnishing the city's supply of water has been begun by Chief Engineer Louis H. Weaver of the pumping station. This means that 94 wells are to be relieved of the gravel and other refuse that has collected in them through the great suction necessary in getting the supply through the pumps and into the mains. The job is a big one. Mr. Weaver says that he hopes to get each one cleaned out this fall, but if he fails the work will be resumed early in the spring. To get the stuff out a crew of men use a motor driven centrifugal pump. This year the city is using its own electricity supplied by the engine and generator recently installed.

Water and Light Plant Officially Opened

East Point, Ga.—The new \$85,000 water works and electric light plant was officially inaugurated September 30, and the city officials made it a memorable occasion. There were speeches by Mayor J. Clyde McKenzie and others. Invitations to the event were extended to the Mayor and Council of Atlanta, county officials, State officials, bankers and many prominent citizens. The Mayors of Hopeville, College Park and other suburban towns about Atlanta were also invited. Following the inspection of the plant a fine old-fashioned barbecue was served the special guests near the center of town.

Filtration Beds Again Under Consideration

Hartford, Conn.—Alarmed at the low condition of the water in the reservoirs, which register 1,188,800,000 gallons, the Board of Water Commissioners has considered the advisability of installing a filtration plant to filter river water for use in the city mains. Consulting Engineer Allen Hazen, who has given the Board his expert counsel for several years, and who conceived the Nepaug reservoir scheme which failed of passage in the recent General Assembly, attended the meeting at which the proposals were made, and advised against the use of any but a slow sand filter.

Water Mains Are Torn Up

Jersey City, N. J.—A new turn was taken in the fight to prevent the Hudson County Water Company from sending water to Staten Island when employees of the Street and Water Board tore up the company's main at Hatch avenue. The work was done under the supervision of William Griffen, Superintendent of the Jersey City Water Department. The Hudson County Water Company is a branch of the East Jersey Water Company, and was organized with the idea in view of supplying Port Richmond and other Staten Island towns with water. A year ago, when its plans became known, a bill was passed in the New Jersey Legislature providing that no potable water should be carried by pipe lines outside the State. The Jersey City authorities recently learned that the Hudson County Water Company was laying water mains along the Morris Canal on private property, and that it was planning to evade the law. The Street and Water Board appealed to Corporation Counsel Warren Dixon for a legal opinion in the matter, and Dixon consulted with Attorney-General Wilson of New Jersey. It was decided that the city could act the moment the water company laid its mains on city property, and the early morning raid on the pipe line was the result of the Street and Water Board's prepared programme.

Newark's Application for Water Denied

Newark, N. J.—Newark's application for water rights in the Wanaque River Valley has been denied by the State Water Supply Commission. J. Harry Bacheller, the Newark member of the Commission, was the only one to record his vote in favor of the application.

Criticise Ottumwa Water Supply

Ottumwa, Ill.—Fire insurance adjusters, who have worked on recent fires, severely criticise the water supply of the city. They state that the water works are owned by private individuals, who are at odds with the municipal authorities, and who are accused of not complying with the city ordinances.

WATER FAMINE IN TEXAS

Drought Causes Shortage in Many Cities—Means Adopted for Fire Protection—Reports from Over State

Greenville, Tex.—The water problem is getting to be a serious question at this place and old settlers say they have never experienced such a scarcity of water since 1876. People who have to use the water works water for drinking purposes are experiencing quite an inconvenience, as the water works plant is furnishing water but one hour each day, from noon to 1 p. m. The water is getting so low in the water works basin that it will only be a short time until the plant will close down entirely and the remainder of the water be reserved for fire protection.

Haul Drinking Water

Terrell, Tex.—The water problem is becoming alarming, it is reported, in the southern portion of this county, where many people are hauling drinking water eight or ten miles, and in many instances from holes in creeks from which green scum is removed.

Will Sink Shallow Wells for Temporary Use

Dallas, Tex.—In order to supplement the surface supply of water until such time as the White Rock reservoir shall be completed the Commissioners have decided to sink shallow wells to depths of not over 100 feet in the gravel beds about the city. It is estimated that 2,500,000 gallons daily may be obtained in this way.

Rejoices in Artesian Wells During Drought

Waco, Tex.—The protracted drought, which has dried up the tributaries to a considerable extent and reduced the currents of the Brazos River to the lowest stage on record, has not diminished the city water supply, derived from tubular wells about 40 feet deep, and artesian wells about 1,825 feet deep. The wells are pumped into a reservoir with a capacity of 7,000,000 gallons, which is kept full and running over continuously. The patrons are permitted to use all the sprinkling water they want on their lawns, and no more than ordinary efforts are made to prevent wasteful consumption of water.

To Vote on Five Water Problems

El Paso, Tex.—El Paso is wrestling with the water problem to the exclusion of interest in all other public affairs. It is now proposed to hold an election on five distinct propositions and then another on the two receiving the largest number of votes.

Tree Roots Cause Leakage of Water

Washington, D. C.—In some places where leaks have been located lately roots of trees have bent three-quarter-inch lead pipes, and through the small holes which have been made in the gradual bending, in one instance, several millions of gallons of water were lost daily. In some instances these leaks never showed above the surface of the street, and could only be detected with the instruments.

Leak in Reservoir

Wrightsville, Pa.—The Wrightsville Water Supply Company, in an effort to secure a sufficient supply of water by digging a well on the premises, found after digging nearly 20 feet deep the supply could not be obtained. The well was abandoned. It has been discovered that the reservoir was leaking and that quantities of water were lost daily in this way. The reservoir has been drained and the water is now piped from the springs directly to the main, while a force of men is engaged in cementing the bottom of the reservoir.

Good Municipal Water Pressure

Yuba City, Cal.—Another test of the water pressure for fire purposes was made. A stream of water was thrown over the top of the Court House dome. The pressure was found to be 110 pounds, and it is figured that three lines of fire hose could be used without diminishing the pressure appreciably. The pressure is equal to that maintained by any city in the valley for fire purposes, and the citizens have cause to be proud of the new municipal water system in this respect.

STREET LIGHTING AND POWER

For Municipal Lighting Plant

Baltimore, Md.—Mayor J. Barry Mahool, with Superintendent of Lighting Robert J. McCuen and Electrical Engineer Phelps, has been inspecting the old garbage reduction plant at Fort Covington, on the water front, now owned by the city, to determine whether it could be used for a city lighting plant. It is also suggested that the plans might include a municipal heating plant, from which steam could be piped to the municipal buildings, there being much complaint of the method of heating now used in the City Hall.

City Provides Special Illumination

Dallas, Tex.—The Municipal Commissioners have authorized the City Electrician to string the special lights for the city streets during the State Fair in October. The lights are to be strung after the general fashion of previous years, extending from pole to pole on opposite sides of the streets. At the intersections will be crossed lines of lights. Some color effects will also be attempted. Heretofore the work has been paid for by subscription, but the city promised to provide for it this year. The lines and lights hitherto used have been turned over to the city. The cost to the city this year will be about \$1,000.

Lights Turned on from City's Plant

Douglasville, Ga.—Lights have been turned on for the first time from the new municipal electric light plant. The plant was constructed by Carter & Gillespie, of Atlanta, and is now in readiness to be turned over to the town. The cost of the plant was \$12,000, and it is perhaps the best plant in a town of this size anywhere.

To Try Incandescents

Gouverneur, N. Y.—The Village Board has decided to begin the experiment of lighting some of the dark places in this village by 32-candlepower incandescent lights and has authorized the installation of some of the lights at the Main street bridge and in Main street, near the corner of Ward street.

Compromise Gas Ordinance Outlined

Minneapolis, Minn.—The first steps toward settling the municipal gas problem have been taken at a session of the special Council committee. Briefly, the agreement was that all gas franchises should be allowed to expire on a single date, 1930, provided satisfactory agreements were made as to rates and quality of service. A form of an ordinance in 24 sections was drawn up with some of the main points included, but most details left open for future agreement. Mayor Haynes will be represented at subsequent conferences by a gas expert whom he will select. Although many of the sections of the ordinance have not been filled out, suggestions under each heading have been made by Alderman Hertig, and form the first definite scheme of reaching a conclusion which has yet been presented.

Tacoma Has Poor Electric Service

Tacoma, Wash.—Because the Seattle-Tacoma Power Company is endeavoring to supply electrical current to more consumers than its equipment provides for, Tacoma is this year receiving positively the worst electric light and power service in years, according to Commissioner of Public Works H. J. McGregor. The lights in Tacoma were off all over the city for 45 minutes one night and the city had not been certain of lights for the preceding week or more, according to electricians. Many complaints have reached the Commissioner's office of weak current and the men in charge of the light plant have done everything possible to bolster up the service. Their efforts, they say, are unavailing, because the current is not to be had. The trouble on the night referred to was the result of transformers having burned out at the generating plant at Snoqualmie Falls, according to reports which reached the city. "We have endeavored to have the service improved, but we find ourselves unable to better conditions," said Commissioner McGregor. "The Seattle-Tacoma Power Company is serving too many consumers. It is supplying Seattle with current for the Alaska-Yukon-Pacific Exposition, I am told, besides its regular customers in Everett, Seattle and Tacoma."

FIRE AND POLICE

Police Stars to Be Changed

Chicago, Ill.—Chief of Police Steward has discovered that perhaps as many as 200 police stars, including those of Sergeants, Lieutenants and Captains, are in the possession of City Hall employees and others without authority to wear them, and he has ordered them all turned in. He also has sent to the 150 or more holders of complimentary stars, known as members of the Chief's private staff, requests that they be turned in, as he desires to make some changes in the design used. So far as possible he has obtained the list of all such persons, but he has heard of stars not on the list. The change in design will be made so that all stars not reissued by him will not be recognized.

Equip Police with Cameras

Evanston, Ill.—The policemen will all be equipped with vest-pocket cameras. All suspicious characters, or persons against whom charges are to be made, will be photographed. These will be used in court as evidence or preserved in a gallery. The system is said to be a success in London, England.

Newburgh Fire Memorial Unveiled

Newburgh, N. Y.—With simple ceremonies and before a great throng of people the firemen's memorial was unveiled September 30. Later the monument will be placed in Downing



Courtesy Newburgh News

FIREMEN'S MEMORIAL

Park. The memorial depicts a volunteer fireman in the act of saving the life of a child. The fireman is in full uniform of the present day, the suggestion being that even on a gala day as that of the dedication, when firemen are dressed in their handsome uniforms, they would not, in the event of a fire, hesitate to rush into a building and rescue anyone in peril. The figure is that of a man of large proportions. Under his left arm he carries a boy, while with his right he is summoning for his fellows to bring ladder or lift net. The figure stands on a base of granite, the whole monument being 17 feet in height. The bronze figure was cast by Tiffany & Co., of New York. The base is of fine granite, part smooth and part rough. On the front and rear is the inscription "Newburgh Volunteer Fire Department." On diagonal corners are representations of hydrants, while various appliances for fighting fire such as a nozzle and the like are carved in the stone.

Substitutes Ammonia for Ambulance Brandy

Chicago, Ill.—An order burdened with woe to certain city employees has been issued by Chief of Police Steward decreeing that hereafter ambulances and patrol wagons should carry spirits of ammonia for reviving victims of accidents instead of brandy. "I think the ammonia will last longer than the brandy," explained Chief Steward, with a smile. "The brandy is sometimes gone by the time an ambulance crew gets to its destination. Also, ammonia is cheaper and just as effective."

Curfew to Prevent Burglaries

Hillsdale, Mich.—Residents of Hillsdale, young and old, must in the future govern themselves by the ringing of a curfew bell. As a result of a series of house burglaries the city officials have decided that no one shall be permitted on the street after midnight, except doctors or the village undertaker, and the Town Marshal has been instructed to rigidly enforce the order. Hillsdale has been terrorized by the housebreakers for months, and the last straw was broken when the Marshal discovered men trying to force the lock of the First State Bank a few nights ago. He frightened them away with shots and found the burglar tools they left behind.

Important Fire House Opened

Columbus, O.—The new "wholesale district" fire house, at Chestnut and Fourth streets, known as No. 16, has been opened. Eighteen of the best firemen, 10 of the fastest horses and the best equipment that money can buy have been assigned to the house. The equipment consists of an aerial truck, with 85-foot ladder; an Ahrens engine, capacity 1,150 gallons a minute, and a combination wagon built by the Seagrave Company, carrying 2,400 feet of hose. The building and site cost \$55,000 and the equipment \$25,000.

New Fire Auto Beaten

Jenkintown, Pa.—That "the race is not always to the swift" was demonstrated when the borough's new and speedy fire automobile was beaten, on equal terms, to a nearby fire by the hand-drawn apparatus of the Independent Fire Company. Ten minutes later the auto came along, having been detained, not by lack of speeding qualities, but by one of those mishaps to automobile machinery that sometimes give mule teams the advantage.

Regulating Moving Picture Shows

Louisville, Ky.—An ordinance has been passed providing that the Chief of Police must issue permits to all picture shows for each film to be run, and empowering that officer to appoint a commission of 12 prominent men and women to censor films at pleasure without compensation. It is provided that no lewd, lascivious or otherwise improper film shall be run, and a penalty of from \$10 to \$100 for each offense is provided.

What City Has Best Fire Equipment?

San Francisco, Cal.—Chief Shaughnessy, who has spent two months in inspecting fire equipment in every large city in the country, is quoted as saying that New York and Philadelphia have the best high-pressure systems in the country and that New York and Baltimore have the finest engine houses and equipment.

Gong Calls Police

Streator, Ill.—City Electrician Harry G. Young has placed a large gong on a pole near the corner of Main and Monroe streets and connected it by a private circuit with the police headquarters in the City Hall. The gong is used to call policemen on their beats, and by a code of signals it is known whether one, two or three men are needed. Hitherto the fire bell was used to call police, but this was objectionable, because it warned lawbreakers whom it was desired to catch that the police were after them.

Blockaded Alley Obstructs Fire Department

Wheeling, W. Va.—Chief Altmeyer of the Fire Department has issued a warning that all owners of wagons and carts who leave them standing in the alleys of the city will be prosecuted. Lately when the Department was going to a fire in an alley a wagon was encountered and it was necessary to let the apparatus stand and carry the chemicals to the fire, as the truck could not be pulled past the wagon.

Gong and Indicator on Separate Circuits

York, Pa.—A combination gong and indicator is being installed by City Electrician Fastnacht at police headquarters. The wiring in the indicator will be divided so that the indicator will be on one circuit and the gong on another, so that in case of either circuit being out of service police headquarters will have the benefit of a fire alarm service.

Nominal vs. Adequate Salary for Fire Chief

York, Pa.—In the eyes of every volunteer fireman the highest office in the gift of the Mayor is that of Chief Engineer of the Fire Department, at the meager salary of \$200 a year. It is probable that to no other appointive office does the Mayor give more weighty consideration than to his selection of a Fire Chief. The present Chief, George S. Kroll, has been a member of the oldest company in the Department for 20 years. Out of his salary he provides himself with a horse and buggy. It is probable, however, that the present Chief will be the last appointed under the old method. Those favoring placing the office upon an adequate salary point out that a Chief could thus devote all his attention to this work. He could familiarize himself with the construction of buildings, thus gaining a knowledge that might be of vital importance in fighting a fire.

GOVERNMENT AND FINANCE

Tax Rates in West Virginia

Charleston, W. Va.—Forty-three cities in West Virginia have total levies, including State and municipal taxes, exceeding \$1 on \$100 valuation of taxable property, and Charleston, the capital city of the State, is thirty-second in the list, with a total levy for all purposes of \$1.18, according to a statement compiled at the State Tax Commissioner's office. The compiled statement shows that Wheeling, the metropolis of the State, has a total levy of less than \$1, but cities like Bluefield, Sistersville, Point Pleasant and Huntington have larger levies than Charleston, while the levies of Parkersburg, Morgantown and Moundsville are lower. Notwithstanding the larger levies in the municipalities of West Virginia, the reports to the office of the Tax Commissioner show that the average levy in West Virginia for the year 1909 on the \$100 of taxable property will not exceed 85 cents, probably the lowest average rate of taxation of any State in the Union.

New Charter for Newburyport

Newburyport, Mass.—An order has been passed that a special committee, consisting of the Mayor, Presidents of both Boards, one Alderman and two Councilmen, with three citizens to be named by the Mayor, constitute a Committee on Charter Revision, which shall be authorized to prepare a charter for approval by the Legislature, subject to a ratification at the polls.

Aldermen Ask Voters for Pay

Perth Amboy, N. J.—The Board of Aldermen will put before the people the question of paying members of Council salaries not to exceed \$300 per annum. An act of the Legislature was passed last winter allowing Aldermen salaries up to \$500, if the electors should so decide.

For Commission Government

Sapulpa, Okla.—A resolution has been passed favoring a commission form of government, and an election was ordered for October 16 on the proposed change, and also for the adoption of a new charter.

Sullivan Votes to Join Ranks of Cities

Sullivan, Ind.—Sullivan, one of the largest towns in Indiana, was voted into a city September 29. The vote stood 575 for and 174 against.

Plan to Relieve Comptroller and Mayor

Seattle, Wash.—An amendment to the city charter has been proposed in order to relieve the Mayor and City Comptroller from spending at least half their time in signing general and local improvement bonds. By the end of the year it is estimated that these officials since January 1 will have signed their names 90,000 times to bonds. The plan is to create the office of Registrar of Bonds attached to the accounting department, who shall sign all bonds and, besides, keep account of all transfers of ownership.

Working on Washington Budget

Washington, D. C.—It is expected that the budget for the fiscal year to begin July 1, 1910, will call for an appropriation of \$11,600,000. The estimated revenues of the District, as outlined by the special committee appointed by the Commissioners, are about \$6,250,000. The estimated revenues for the present fiscal year are about \$6,006,000, and the appropriation amounted to \$10,732,396. Under the law the estimates of the Commissioners must not exceed twice the amount of the estimated revenues. It is estimated that the District revenue is about \$6,250,000, so that the total amount available for District expenditures would be about \$12,500,000, the Federal Government adding as much as the District raises. Out of this sum about \$900,000 must be paid on the funded debt of the District, created before the beginning of the present form of government. This will reduce the amount available to about \$11,600,000. The payment of interest on loans from the United States Treasury and the amount necessary for expenditures provided in other than the District appropriation act, but charged to the District, will reduce this sum to about \$11,000,000. The estimates of the Commissioners last year amounted to \$15,730,995.52, including items amounting to about \$4,556,850 for extraordinary expenditures to be paid out of loans from the United States Treasury.

REFUSE COLLECTION AND DISPOSAL

✓ Garbage Cans Closed to Poor

Chicago, Ill.—The Juvenile Protective Association started a crusade against a practice of sending children to forage for bits of fruit and vegetables from the garbage cans of the South Water street commission houses. Every evening between 4 and 5 o'clock an army of children ranging from 7 to 15 go into the commission districts and fill sacks, baskets and boxes with portions of the refuse. It has been learned that a great part of the refuse thus accumulated is carried home and used as food by families in the tenement districts.

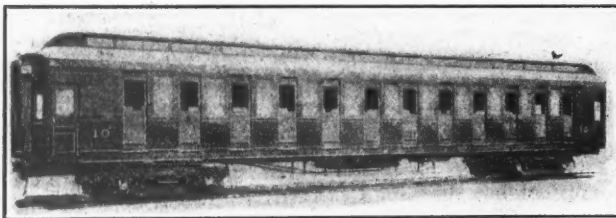
Garbage Must Go Outside

Lockport, N. Y.—The Committee on Streets has directed that specifications be changed, to require that ashes and garbage be kept in separate receptacles, so that the collector can handle them separately. He will also be required to have two wagons hereafter, one for garbage and the other for ashes. The garbage will have to be disposed of outside the corporate limits, but the ashes can be dumped on the Oliver's gully as heretofore. This gully is in the city. The specifications have been changed also to include the entire city in the collection district. At present the outlying districts are not included. Two instead of one collection a week will be made in the business districts of the city. The fund has been increased from \$3,000 to \$4,500.

RAPID TRANSIT

Side-Entrance Cars Adopted

Pasadena, Cal.—The directors of the Pasadena Rapid Transit Company have practically decided upon a 28-door, side-entrance car as one of the main features of the railroad they are engaged in building between Pasadena and Los Angeles. This car has fourteen doors on each side, or an individual door for each car seat. The car is the same as used by the Illinois Central for its rapid suburban



STREET CAR WITH SIDE DOORS

traffic. It is an all-steel frame, standard railway coach. It is fully vestibuled and passengers can go from one car to another as on regular railway trains. As passengers will walk into the cars from even platforms there are no steps to the cars. When trains are stopped at stations all doors are opened at once. This enables one to step directly from seat to station platform, and an entire train can be unloaded and loaded in twenty seconds. The side doors are mounted at the top on ball-bearing rollers and slide in and out of spaces in the walls of the cars. The thresholds are flush with the floor, equipped with safety treads and grooved to receive the lower ends of the doors. The doors are connected with mechanism concealed within the hollow walls of the cars, and arranged to be operated in series by compressed air or by hand. Each door is provided with a sliding sash and blind, self contained. The interior is beautifully finished in polished mahogany, and the coach is provided with wide vestibules, wide seats and all of handsome design.

Chicago Plans to Electrify Railroads

Chicago, Ill.—An ordinance providing that all steam railroads entering Chicago shall be electrified after January 1, 1912, within eight miles of the City Hall, has been introduced in the City Council. The ordinance is said to have the approval of the administration, and a majority of Aldermen are reported to favor it. It is said that compliance with such an ordinance would mean an expenditure of \$150,000,000.

Three-Cent Fares for Des Moines

Des Moines, Ia.—Rumors are persistent on the street that a group of Eastern capitalists will apply for a street railway franchise. The plans are said to call for a cross-town line with a 3-cent fare, with transfers to other lines of the same system for 2 cents.

Get Express Franchise

Easthampton, Mass.—At a special meeting the Selectmen granted the Northampton Street Railway Company a franchise for carrying express parcels. The franchise is for 25 years and is given on condition that an express car be run as soon as business will allow it or the carrying of parcels interferes seriously with passenger traffic. When the express car runs there must be a station for the reception of express packages.

Road Can Haul Freight

Peoria, Ill.—The City Council has voted to allow the Peoria-Galesburg Railway Company, which desires to build an interurban line between this city and Galesburg, the right to haul freight through the streets of Peoria provided it is hauled in cars similar to interurban express cars, is not objectionable to citizens or business men, and that trains consist of not more than three cars each.

Police to See All Get Seats in Cars

Pittsburg, Pa.—Mayor Magee, through Superintendent of Police McQuaide, assigned 400 policemen in plain clothes to watch the street cars of the Philadelphia Company, take a copy of the registers and a count of all passengers unable to obtain seats. This inspection continued for three days, and, basing his conclusions upon the result of it, Mayor Magee will cause to be introduced in the City Councils an ordinance to force the railways company to furnish enough cars to allow every passenger to have a seat.

New Route Relieves Car Congestion

Hartford, Conn.—The Connecticut Company is operating to East Hartford and other points across the river by way of the Connecticut boulevard. The special trackwork connecting the boulevard with the tracks across the river, and other minor details were recently completed. This means a greater facility in handling the traffic about City Hall square, as the use of east and west bound tracks relieves congestion at the starting-point adjoining the City Hall, and does away with much of the confusion formerly experienced in boarding cars. The eastbound cars run past the north side of the City Hall, in State street, on the southerly track, thus making it necessary for westbound passengers to board their cars from the north side of State street instead of from the south side, immediately adjoining City Hall lawn, as heretofore.

Cost of Subways Prohibitive

Philadelphia, Pa.—Following up his proposition to either construct an elevated railroad north and south on Twelfth and Thirteenth streets or to lease trackage in a city-built subway under Broad street, S. S. Neff, president of the Philadelphia & Suburban Elevated Railroad Company, has issued a statement setting forth some of the difficulties in the way of the subway undertaking. He reiterated the determination to place the matter before Councils and ask for a public hearing, at which the expert testimony gathered by the company might be heard, but forcibly pointed out the almost insurmountable obstacles to the construction of a Broad street subway, and urged that the elevated plan set forth by the company is much to be preferred.

Municipally Owned Street Car System

Vienna, Austria—The electric street car system of Vienna is owned by the city, having been municipalized by the present Mayor, Dr. Lueger. The report of the last year shows it to be in a very flourishing condition. It is not run for the purpose of making money. Yet after deduction of the expenses and interest on the capital a surplus of two and a half million kronen (\$700,000) was transferred to the city treasury. In spite of a very large increase of the passenger traffic the number of accidents has decreased from 1367, in the previous year, to 913. The administration grants reduced fares to all those who board the cars before eight o'clock in the morning, that being the beginning of business and school hours.

MISCELLANEOUS

No Autos in Bar Harbor

Augusta, Me.—The ordinance excluding automobiles from the streets of Bar Harbor, passed by the town government, is declared constitutional by the law court, the highest tribunal in Maine. The case, which has occupied attention in town governments and state courts for nearly a year, grew out of the attempt of S. H. Mayo, early in the summer, to drive through the town in an automobile as a test of the law.

Purchasing Department Saves Money

Cleveland, O.—In his annual report for last year, the first report issued covering a full year, City Purchasing Agent A. R. Callow makes the claim that the department has saved the city on the average 10 per cent on all purchases made.

Moving Picture Shows Regulated

Hartford, Conn.—Chief Egan, of the State Police, acting under the new State law for the safe use of moving-picture machines and regulations concerning booths and buildings, placing control of the business in the hands of the State police department has issued a long series of regulations supplementing the law. These regulations provide for fire escapes as required under other statutes, generous aisle space, limiting the number of occupants of moving-picture theaters, aisles to be kept clear, exits to be plainly marked, doors to open outward and fire extinguishers must be kept upon the premises.

Mayor Stops Moving Picture Shows

Indianapolis, Ind.—Mayor Bookwalter has issued an order that moving-picture theaters shall not be permitted to give performances on Sunday. These shows have been working for two Sundays under an agreement to pay 20 per cent of the net profits to charitable purposes. Some of the organizations indicated that they would not accept the money thus raised. The pure-milk stations may have to be closed as a result of the loss of this source of income.

Portland City Hall Cornerstone Laid

Portland, Me.—The cornerstone of the new City Hall was laid October 6. The former structure was burned January 24, 1908. The new cornerstone was laid on the same spot as the old one.

Council Approves Increased Telephone Rates

Rochester, N. Y.—Without a word of protest and with only two negative votes, an ordinance permitting the Rochester Telephone Company to increase its rates on business telephones was adopted by Common Council. The company has been seeking to increase its rates for a long time, claiming that it was impossible for them to live at the present rates. Finally they consented to allow a firm of expert accountants to go over their books. The examination confirmed their claims, with the result stated.

New Policy Regarding Slow Contractors

San Francisco, Cal.—Supervisor Pollock acted in accordance with a deliberate policy he has adopted when he asked to have withheld the demand of Finn & Treacy Contracting Company for the second progress payment on fire cisterns. He intends to make the contractors live up to their agreements in the matter of executing work within the time specified. There are a good many public improvements, particularly street paving, that are delayed, and Supervisor Pollock says he intends to hold up demands for payments every time he has proof that work is delayed.

City to Run a Drug Store

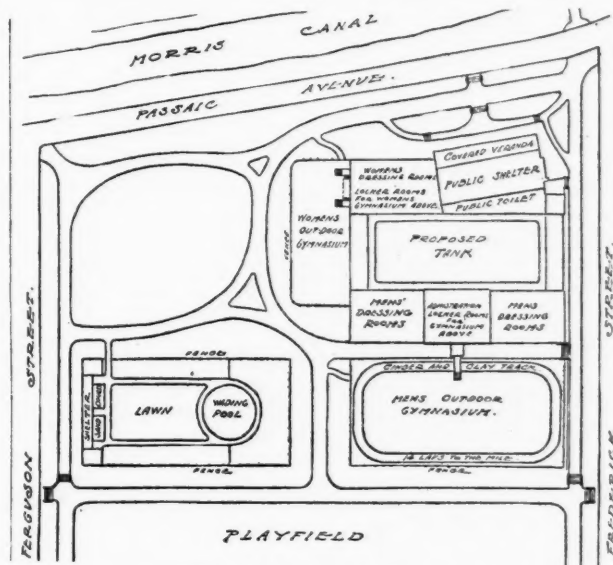
St. Petersburg, Russia.—A new municipally-owned enterprise is reported from St. Petersburg. The United States Consul there writes that "the high rates at which medicines and drugs are sold by the private pharmacies and drug stores have induced the municipal authorities to start a municipal pharmacy, for which purpose \$15,450 has been recently allowed. The city pharmacy will supply medicines and drugs to all the disinfection and sanitary departments, as well as municipal hospitals. To private persons drugs will be sold at 20 per cent discount on the normal charges."

Erects 200 Four-way Signs

Holyoke, Mass.—The Street Department has begun the work of erecting the 200 new "four-way" street signs which were ordered some time ago. It has been a difficult matter to keep legible signs at the street corners here as the small boys seem to take particular delight in demolishing the old-style ones. It is believed that the new ones will be practically indestructible and the whole city will be equipped with them as rapidly as possible.

Park for Congested District

Newark, N. J.—Work on Riverbank park, in the manufacturing district extending from Passaic avenue to Market street has been started. Plans of Olmsted Brothers, the



RIVERBANK PARK, NEWARK, N. J.

landscape architects, will be followed. The playfield will be along Market street, and will take up about half of the park area. Then come in the direction of the Morris canal, the wading pool, on the left, and the running track and outdoor gymnasium, on the right. The running track surrounding the gymnasium will be fourteen laps to the mile. The plans also call for the construction of an administration building and public shelter.

Nearly Six Millions at Public Baths

Philadelphia, Pa.—Visits paid the public bath houses of Philadelphia during the past summer numbered 5,633,228. Chief Eisenhower, of the bureau of city property, issued the tabulated statement for the season of 1909, as the baths closed a week ago. The total is smaller than that of last year—6,187,737—but larger than 1907—4,823,246. This year's total is apportioned as follows: Men, 1,172,798; women, 43,086; boys, 4,223,261, and girls, 195,083.

City Will Have Plumbing Board

Fort Worth, Tex.—A city Plumbing Board, composed of the City Engineer, City Physician, City Plumber, a Master Plumber of at least 10 years' experience and one other member not yet determined, will be created at once by the City Commission. This Board will inspect the plumbing of the city and issue permits to competent workmen who desire to follow their trade in Fort Worth. No salary is attached to the office.

New Plumbing Ordinance Passed

Seattle, Wash.—A new plumbing ordinance, incorporating several of the recommendations of the union plumbers has been passed. The one of either 45 or 90 degree vent pipes is allowed. Master plumbers assert that it will mean a reduction of at least 20 per cent in the cost of plumbing.

Would License City Guides

Washington, D. C.—Major Richard Sylvester, Superintendent of Police, has recommended to the Commissioners that all Washington guides be compelled to pay a license fee of \$5 and be provided with a badge and subjected to certain rules.

LEGAL NEWS

A Summary and Notes of Recent Decisions—Rulings of Interest to Municipalities

Initiative and Referendum

Haines vs. City of Forest Grove et al.—General Laws 1907 provide that a petition for a proposed ordinance, charter or amendment to the charter of any city shall be filed with the City Clerk, who shall transmit it to the next session of the Council, which shall either ordain or reject the same, as proposed, within 30 days thereafter; but if rejected, or no action is taken thereon within that time, it shall be submitted to the voters. Held, that the word "ordain" is employed in the sense of "adopt" or "approve"; that is, the Council may either approve or reject the proposed charter or ordinance, after which proceedings may be taken as therein directed, and hence the adoption of a proposed charter by resolution, instead of by ordinance, was sufficient. General Laws 1907 provide that if any ordinance, charter or amendment to the charter of any city shall be proposed by petition, and is not rejected or approved by the Council within 30 days, the Clerk shall submit the bill to the voters at the next ensuing election, and that, if the proposition meets with the approval of the Council and they shall so ordain, it may either be submitted to the voters or the Council may declare and thereby make it effective without such submission. Held, that where a charter was properly proposed and submitted under a resolution approving the bill, the adoption having been regular, the title, reciting that it was a bill "to propose * * * by initiative petition," was sufficient, though it did not appear that it was proposed by a resolution of the Council. General Laws 1907, relating to the initiative and referendum, provide in section 5 that when any measure shall be filed with the Secretary of State to be referred to the people, or shall be proposed by initiative petition, a copy thereof shall be transmitted to the Attorney-General, who shall provide a title for the measure. Section 10 provides that as to cities and towns the duties required of the Attorney-General by the act shall be performed by the City Attorney as to municipal legislation. Held, that where the title to a bill proposing an amended charter was adequate, and the city at the time of the proceedings had no City Attorney, failure to have the title prepared by the City Attorney did not invalidate the election.—Supreme Court of Oregon, 103 P. R., 775.

Rates of Fare—Transfers

City of Philadelphia vs. Philadelphia Rapid Transit Company.—A contract between a street railway company and a city provided that the "present rates of fare" may be changed from time to time with consent of both parties. The "present rates of fare" were 5 cents for a continuous ride, or a sale of tickets at the rate of six for 25 cents, and free transfers at certain places, both on the cash fares and the tickets. Held, that the contract was not violated by a rule of the company by which transfers were issued only to persons paying a cash fare, and not to those paying fare by tickets.—Supreme Court of Pennsylvania, 73 A. R., 923.

Regulating Place of Stopping Cars

Village of Excelsior vs. Minneapolis & St. Paul Street Railway Company.—A writ of mandamus was issued to defendant suburban railroad company to compel it to stop its cars at a point in the plaintiff village. Defendant was authorized to operate its lines within the limits of the village under an ordinance provision that it should carry passengers within the village limits on the payment of the specified fare. The village subsequently passed an ordinance requiring railroad and street cars, which occupied public streets for the purpose of operating upon and along the same, to stop such cars at grade crossings of streets when any persons required to enter or alight from such cars. It is held that mandamus did not lie to compel defendant to stop at the designated place, because: (1) The ordinance was not a legitimate exercise of the police power. (2) Defendant's lines did not in fact occupy a street, and were not located upon and along a street, but were con-

structed upon its own right of way. (3) The ordinance was opposed to public policy; under the general law, defendant was not a mere street railway company, but had the legal status of a suburban railway with the power to condemn lands; the requirement that a suburban railroad should stop at every street intersection to take on and discharge passengers tended to destroy its usefulness as a carrier of passengers and to destroy competition with steam railways; and the observance of the ordinance did not subserve public convenience.—Supreme Court of Minnesota, 122 N. W. R., 486.

Use of Public Lands—Tunnel

Codman et al. vs. Crocker et al.—Property dedicated by donors to a particular public use cannot, at least without the exercise of the right of eminent domain, be appropriated to a use of a different character, in disregard of the rights of the donors and their legal representatives. Boston Common was dedicated by its owners in 1634 "for the common use of the inhabitants of Boston as a training field and cow pasture." Held, that the Legislature had authority to authorize, by St. 1906, p. 742, c. 520, the construction of a railway tunnel or subway under part of the Common; such use not being at variance with the general purpose of the donors, it appearing that the occupation above the surface for all proper purposes will be changed hardly perceptibly, and that the increase of facilities for approaching the Common will be a convenience to the public in the use of it. The city holding the title to Boston Common only in its municipal capacity as an agency of the government for the benefit of the public, and the power of the Legislature to represent this interest being supreme; St. 1906, authorizing the construction of a railway tunnel or subway under part of the Common is a sufficient authority for such construction, without a vote of the city government or of the citizens of the city. St. 1906 authorizes the construction of a railway tunnel or subway between Cambridge and Boston. Section 23 provides that the tunnel shall, except as otherwise expressly provided herein, be constructed and paid for on the terms, so far as applicable, and with the same rights as to construction, which are hereby conferred for such purpose on the Transit Commission, the Board of Railroad Commissioners, the city of Boston, and its treasurer, the railroad company, and other public officers or parties in interest, respectively including any persons sustaining damages by the taking of or injury to property by the commission, etc., as are prescribed by St. 1902, for construction of the tunnel therein provided for, including the rights and powers conferred by section 13 of said act, which section shall also apply to the location of the tunnel and to the construction of the subway referred to in this section, if that is constructed. It also provides that if the Elevated Railway Company is dissatisfied with the decision of the Transit Commission it may apply to the Board of Railway Commissioners, who may finally determine the question. Held, that the said section 23 does not relate to the question whether the tunnel shall be constructed, but only to the question how it shall be constructed after it is determined that it shall be built, and hence does not require the submission to the voters of Boston whether the tunnel shall be constructed.—Supreme Judicial Court of Massachusetts, 89 N. E. R., 177.

Supply of Water to City

City of Omaha et al. vs. Omaha Water Co. City of Omaha vs. Same.—Evidence held not to sustain the defense of a city to an action by a water company to recover hydrant rentals on the ground that the company had failed substantially to perform its contract. The mere admission in rebuttal of evidence necessary to a plaintiff's case in chief is not reversible error.—United States Circuit Court of Appeals, 171 F. R., 647.

Special Assessments—Defenses

City of Woodlawn vs. Durham.—The owner of property abutting on a street improved by the city cannot avoid an assessment against the property by showing that the improvement was not done in accordance with the contract, as that defense must be raised at the confirmation of the assessment, made at a hearing of which he had notice, as provided by law.—Supreme Court of Alabama, 50 S. R., 356.

NEWS OF THE SOCIETIES

League of Virginia Municipalities.

The annual meeting of the league was held at Staunton, Va., October 6-7. There were delegates present from Richmond, Norfolk, Portsmouth, Roanoke, Lynchburg, Staunton, Suffolk and Waynesboro. John W. Craddock, of Lynchburg, presided, and W. T. Stead, Norfolk's City Clerk, acted as secretary. Among the speakers were Messrs. Ira T. Holt, Leo Judson and Thomas S. Purdie, of Norfolk, the last named a member of the Board of Control; Joel H. Cutchins, Mayor of Roanoke; John A. Cutchins, member of Richmond Council; Walter E. Addison, editor of the Lynchburg "News"; R. W. Withers, of Suffolk, and Hugh C. Braxton and R. D. Haislip, of Staunton.

The opening meeting was held in the Beverley Theatre, the delegates being welcomed by Mayor H. H. Wayt. On the second day of the meeting the following addresses were delivered: "The Separation of the Source of State and Local Revenue," Charles J. Bullock, professor of economics of Harvard University; "Education," Dr. William M. Thornton, of University of Virginia; "Charter Making," Clinton Rogers Woodruff, of Philadelphia; "Uniform Municipal Accounting," W. H. Gleason, of Chicago.

Resolutions were adopted looking to a general meeting to be held in Richmond January 7 next to formulate a request to the Legislature to submit a constitutional amendment giving cities greater latitude in form of government. Committees of two from each city, one from the municipal body and one from the chief commercial body, are to meet in Richmond January 6 to formulate a plan to submit the next day to the general body. About 125 delegates attended and souvenirs outlining Staunton's plan of municipal government through a general manager were distributed among the visitors.

Conference of Ohio Health Officers.

Dr. A. M. Bleile of the Ohio State University will discuss "Channels of Infection"; Burt R. Richards, Chief of Laboratories of the State Board of Health, will present a paper on "Antitoxin," and Dr. Frank L. Watkins, State Registrar of Vital Statistics, will speak on the operation of the Ohio law for registration of vital statistics at the ninth conference of the State Board of Health with representatives of village and township Health Boards, to be held at Cincinnati October 14-15. The programme has been given out by Secretary Probst. It is mandatory for the village and township boards to send representatives. Diphtheria, typhoid, vaccination, rabies, rural statistics and the duties of a township health officer are subjects to be discussed.

Alabama Good Roads Association.

An official call for a convention to be held in Birmingham October 14 and 15 has been issued. Invitations have been issued to Governors, Senators and members of Congress and to persons prominent in the good roads movement. All the Judges of Probate of Alabama have been requested to appoint 25 men from each county. All Mayors and Boards of Aldermen in Alabama are requested to appoint delegates and attend. Members from various commercial and industrial organizations are also invited. Associated with the movement for good roads there is a local agitation to have the block pavements removed from center of city.

Ohio Fire Chiefs Association.—The fifth annual convention of the association met at the I. O. O. F. Hall, Alliance, O., September 29. The association was organized in 1904 and now consists of a membership of one hundred, composed of chiefs, assistant chiefs, captains and lieutenants of the various State fire departments. The objects of the society are to promote friendly feelings among the members, promote the efficiency of fire service and discuss subjects of interest. It was the first State convention of any kind ever held in the city and was welcomed accordingly. The assembly was called to order by Col. W. W. King, Director of Public Safety, Alliance. Roscoe T. Sharer delivered the address of welcome. President M. H. Darby, Dechler, of the association, responded. The subject, "Automobile Fire Apparatus and Its Success in Fighting Fires," was opened by W. H. Loller, Youngstown. Besides giving some figures of costs, apparently showing economy over horse-drawn apparatus, he mentioned that his department was having trouble over tire punctures, and intends to put on solid tires. The question as to whether the State of Ohio should set apart a part of the tax derived from fire insurance companies for the pension of firemen was advocated by Chief T. J. McFarland, Marion. "Natural Gas—The Advantages and Disadvantages of Its Use to the Fire Department," was discussed by Chief Filton, of Bellaire. He dwelt largely upon the necessity of proper installation. A parade and a banquet formed part of the evening ceremonies. Toledo was selected as a meeting place for 1910. The election of officers resulted in the election of Chief John A. Walsh, of Columbus, as president; Chief J. J. Vantine, of Dennison, first vice; Chief F. J. McFarland, of Marion, second vice; Chief L. R. Wyllie, of Hubbard, third vice, and Chief Arthur S. Aungst, Alliance, fourth vice, and the re-election of D. K. Moser, of Warren, as secretary, and Chief Samuel F. Hunter, of Springfield, as treasurer.

New Hampshire Firemen's Association.—Seventy-five towns and cities of the State were represented by 200 delegates who attended the twelfth annual meeting of the New Hampshire Firemen's Association at Woodsville September 30. The officers elected were: President, George O. Clark, Woodsville; vice-presidents, Capt. C. H. Sanders, Nashua; Capt. D. J. Foley, Keene; Assistant Engineer C. H. Paquette, Laconia; Assistant Engineer Fred M. Bodge, Portsmouth, and Capt. M. W. Worthen, Manchester; secretary, George L. Osgood, Concord; treasurer, Chief John D. Randall, Portsmouth; executive committee, Capt. Joseph H. Morrill, Capt. Joseph F. Stearns and Capt. D. M. Mitchell. The convention closed with a grand ball held in the opera house. An orchestra of ten pieces furnished music. The grand march was led by the new president, Chief George O. Clark, and wife, of Woodsville.

Minnesota Academy of Social Science.—Professor Shambaugh, head of the Political Science Department, Iowa State University, will present the commission plan of government to the Minnesota Academy of Social Science at its annual meeting in December. The meeting is to be devoted to municipal affairs. A whole evening will be given to the commission plan of municipal government.

Representatives of Illinois Cities' Convention.—Representatives from twenty of the larger cities of the State of Illinois met in the assembly room of the Creve Coeur Club, Chicago, Sept. 29, for the purpose of formulating an appeal to the Legislature for permission to adopt the commission form of government. Al. V. Thomas, chairman of the local executive board, called the meeting to order. Dr. J. E. White, Springfield, was selected secretary. A series of resolutions was drawn up reciting the history and advantages of the commission form of government and requesting Governor Deneen to use his influence to secure legislation which would allow the cities of Illinois an opportunity of choosing such a government.

American Road Makers' Association.

—The Ohio Good Roads Federation and the Ohio County Commissioners' Association will join in the convention of the American Road Makers' Association, Columbus, October 26-29. Those in charge of the arrangements believe that this will be the largest good roads meeting ever held.

Cambria County, Pa., Good Roads Association.

—The following programme of addresses has been arranged for a meeting to be held in Ebensburg: "The Science of Constructing Good Roads," Charles S. Price, of Johnstown; "The Authority and Power of the County Commissioners," Attorney John W. Kephart, of Ebensburg; "The Power and Duties of Supervisors," Attorney M. D. Kittell, of Ebensburg. The other subjects to be discussed, but which have not been assigned to speakers, are: "The Co-operation of State, County and Municipalities," "The Things the Street Commissioners Can Do in Boroughs and Cities" and "The Best Plan for a United Effort for Good Roads."

New Orleans Progressive Union.

—The union is a civic organization numbering some 2,000 business and professional men as its members, and is one of the largest bodies of its kind in the South. It is the exponent and expression of municipal, State and Southern progress, and is the great publicity bureau of New Orleans. The union has compiled an illustrated booklet, a guide to the city, showing many of the interesting scenes in New Orleans. The New Orleans Railway and Light Company, operating the street railroads, has had a special edition of the guide published, which it distributes free.

Chicago Cement Show.—The Cement Products Exhibition Company, which manages the Chicago Cement Show to be held from February 18 to 26, 1910, at the same time as the meetings of the National Association of Cement Users, the American Society of Engineering Contractors and the Illinois Association of Municipal Contractors, is offering \$350 in prizes for the best designs of a concrete centerpiece, to occupy the center of the floor at the Coliseum, where the show will be held. No restriction is placed on the form of the centerpiece, and pergolas, fountains and band stands have been suggested. Uniform decorations will be furnished to exhibitors, as was done last year, and the ornamental centerpiece will be the main feature of the decorative scheme.

Utah Society of Engineers.—The society has acquired permanent quarters at 702 Newhouse Building, Salt Lake City, and desires to have for its library the catalogues of manufacturers of engineering supplies and machinery.

Central States Water Works Association.—The thirteenth annual convention was held at Columbus, O., September 28-30, at the Southern Hotel. The attendance was more than the average, but was notable for the absence of supply men. President William Schwertfeger, Wheeling, W. Va., called the convention to order. In behalf of Mayor C. A. Bond, Jerry O'Shaughnessy welcomed the members. Secretary William Allen Veach read a report of the finances and made a plea for increased membership on the ground of the importance and solidarity of the territory covered. Alba M. Holmes, Grand Rapids, Mich., read a paper on "Some Random Suggestions from a Water Works Engineer," in which he advocated the use of meters and condemned the practice of copying schedules of rates prevailing in other cities, instead of making a rate suited to local conditions. Some interesting experiences corroborating the speaker's views on rates were given by other members. Questions of ownership of meters and meter rentals were also mentioned in the discussion. Some amusing incidents of careless financial management of municipal plants were related to show that accurate accounting was necessary for the proper adjustment of rates. Methods of adjusting charges for leaks from which water was wasted previous to the discovery of the leak were also given by some of the members. Several speakers said that in their cities meters were read monthly, although bills were rendered quarterly. J. D. Berg, who read a paper on "The Development and Use of Centrifugal Pumps," said that the advantages were smaller initial cost of installation, as compared with other pumping machinery capable of the same economy; absence of large size packing; less frequent packing necessary; small cost of lubrication; small cost of repair parts; minimum cost for attendance and repairs.

"Compound pumps," he said, "have made it possible to obtain any pressure with a centrifugal pump that can be obtained with other types, and do it efficiently. It is possible to get any characteristic which is desired, and the centrifugal pump has been so developed that it can be determined with exactness what capacity will be discharged at varying heads, and it can be definitely guaranteed that the driving apparatus will not be overloaded, regardless of whether the discharge head is increased or decreased. Bronze instead of cast iron impellers are now used, and all points at which there is a possibility of wearing are protected by small removable parts, which makes the upkeep small."

S. Bent Russell, St. Louis, Mo., read a paper on "The Cost of Clearing Water in Settling Basins." This was accompanied by tabular statements, making the paper a valuable contribution to the literature on the subject.

At this point in the proceedings the party, in charge of Jerry O'Shaughnessy, were taken in special cars to the Columbus sewage plant. The workings of the plant and figures as to costs of construction and operation were given. Upon reassembling a paper was read by F. P. Leopold, of the Pittsburgh Manufacturing Company, Pittsburgh, Pa., on the "New Filtration Plant for Wilkensburg, Pa.," which contained a description of the design, construction and equipment of this plant, which presents some unique features. A. G. Sandblad, chemist and bacteriologist,

McKeesport, Pa., read a paper entitled "Is Softened Water a Desirable Municipal Supply?" He held that the process leaves in the water a product which is entirely harmless, which exists in considerable quantity in all kinds of natural waters—such as sodium carbonate. Before discussing Dr. Sandblad's paper a resolution offered by C. W. Wiles, Delaware, O., was unanimously passed which commended to the Legislatures of Ohio and other States within its territory statutory enactments establishing Public Utility Commissions like those of New York and Wisconsin. Paul Hansen, Acting Chief Engineer Ohio State Board of Health, read a paper on "State Control of Public Water Supplies," in which he maintained that the State should have authority over such governmental functions relative to the municipalities as have an inter-municipal bearing, and which in their nature cannot be fully controlled by the municipalities themselves, such as the purity of streams and dairy supplies. He held that maladministration of city governments leads to State control, but even though the cities were more efficiently governed, there would still remain to the State boards an advisory function. He called attention to a defect in the Ohio law which at present provides no penalty for non-conformity with the requirements of the State Board of Health as to conditions and changes in water supplies. A general discussion of Dr. Sandblad's paper followed, and many searching questions were put to him regarding the operation of the McKeesport plant. Several members gave interesting accounts of their experiences with hard waters. C. Arthur Brown, sanitary engineer, American Steel and Wire Company, Lorain, O., presented an elaborate paper on "Suggestions on the Use of the Iron and Lime Process of Water Purification." The question box was then opened and the queries propounded, several of which related to the use of water for mechanical purposes.

The election of officers resulted as follows: President, T. H. Verner, McKeesport, Pa.; vice-president, Alba L. Holmes, Grand Rapids, Mich.; State vice-presidents, F. J. Brinkoetter, Quincy, Ill.; Thomas McNamee, Wabash, Ind.; Asa Williams, Owensboro, Ky.; W. A. Clark, Wyoming, O.; W. J. Scroggins, Wheeling, W. Va.; H. C. Lee, Sharpsburg, Pa.; S. B. Russell, St. Louis, Mo., and Fred Bosch, White-water, Wis.; secretary, W. A. Veach, Newark, O.; treasurer, A. W. Inman, Massillon, O. Finance committee: George F. Cooper, chairman, Xenia, O.; Jerry O'Shaughnessy, Columbus, O., and W. B. Mitchell, Piqua, O. Executive committee: John Langan, Tipton, Ind., chairman; F. B. Leopold, Pittsburgh, Pa., and C. W. Wiles, Delaware, O.

Mr. John Langan, of Tipton, Ind., suggested that the 1910 convention be held at Indianapolis, and the invitation was unanimously adopted.

A trip to the filtration works and pumping station closed the proceedings.

Federation of Women's Clubs.—An International Municipal Exposition will be opened at Memorial Hall, Boston, Mass., November 1, under the auspices of the Federation of Women's Clubs. The Boston show is wide in its scope, and is preliminary to making Boston what its enthusiastic citizens claim is coming to pass by 1915—"the greatest city in America."

Calendar of Meetings

- October 14-15.**
Alabama Good Roads Association.—Convention, Birmingham, Ala.—J. A. Rountree, Secretary, Birmingham, Ala.
- October 19.**
American Railway Bridge and Building Association.—Annual convention, Jacksonville, Fla.—F. S. Patterson, Secretary, Concord, N. H.
- October 19-22.**
American Public Health Association.—Annual convention, Richmond, Va.—Charles O. Probst, Secretary, Columbus, O.
- October 20.**
American Gas Institute.—Annual meeting, Detroit, Mich.—A. B. Beadle, Secretary, 29 W. 39th St., New York, N. Y.
- October 26-29.**
National Roadmakers' Association.—Annual Convention, Columbus, O.
- October 29-30.**
American Electro-Chemical Society.—Annual meeting, New York, N. Y.—Jos. W. Richards, Secretary, South Bethlehem, Pa.
- November 3.**
Lakes-to-Gulf Deep Waterway Convention.—Convention, New Orleans, La.
- November 9-11.**
American Society of Municipal Improvements.—Annual convention, Little Rock, Ark.—A. Prescott Folwell, Secretary, 241 W. 39th St., New York, N. Y.
- November 15-18.**
American Civic Association.—Fifth annual convention, Cincinnati, Ohio.
- November 15-18.**
National Municipal League.—Annual meeting, Cincinnati, O.—Clinton Rogers Woodruff, Secretary, 705 North American Building, Philadelphia, Pa.
- December 3-4.**
New Jersey Sanitary Association.—Annual meeting, Lakewood, N. J.—J. A. Exton, Secretary, 75 Beach st., Arlington, N. J.

INCORPORATIONS

Charles M. Porter & Co., Chicago, Ill.; general contracting; capital, \$10,000. Incorporators: Charles M. Porter, V. R. Bucklin, Curtis Schueneman.

Vinalhaven Water Co., Vinalhaven, N. J.; supplying of water; capital, \$50,000. Incorporators: T. E. Libby, C. N. Taylor, C. S. Libby, all of Vinalhaven.

American Power & Light Co., Augusta, Me.; machinery for manufacturing of light, heat and power; capital, \$15,000,000. Incorporators: E. M. Leavitt, J. Williamson, both of Augusta.

Susquehanna Clay Products Co., American Security & Trust Co., Wilmington, Del.; capital, \$100,000. Incorporators: Andrew Appleton, Darby, Pa.; Walton Killen, Philadelphia, Pa.; Edgar S. Parsons, Darby, Pa.

De La Vergne Engine Co., Bronx, New York, N. Y.; manufacturing machinery, engines, boiler pumps, ice-making and refrigerating machinery; capital, \$10,000. Incorporators: Harry Praeger, 118 West 143d st.; John J. McElhinny, 34 West 129th st.; Robert D. Eggleston, 507 West 158th st., all of New York.

American Concrete Piling Co., Camden, N. J.; form and drive concrete piles, or piles of metal wood or any other material; capital, \$50,000. Incorporators: Louis E. Welsh, Frank Overn and Elmer S. Holmes, all of Camden, N. J.

Butler Electric Light & Power Co., Butler, N. J.; operate electric light and power works, etc.; capital, \$50,000. Incorporators: Evan C. Jones, Rutherford, N. J.; John B. Lydecker, Bloomingdale, N. J.; Henry R. Schneider, Westwood, N. J.

Municipal Protective Service Co., Rochester, N. Y.; electrical and mechanical engineers; capital, \$15,000. Incorporators: George S. McMillan, Howard B. Park, Howard F. Barnes, all of Rochester, N. Y.

Carrollton Electric Co., Carrollton, Ill.; operate a light, heat and power plant; capital, \$25,000. Incorporators: Ornan Pierson, Elmer S. Simpson, Stuart E. Pierson and F. A. Whiteside, all of Carrollton, Ill.

McCann Brothers Construction Co., Murphysboro, Ill.; general construction work; capital, \$40,000. Incorporators: Patrick S. McCann, James McCann and Charles McCann, all of Murphysboro.

PERSONALS

ANTHONY, W. B., Greenville, S. C., W. C. Beacham and C. S. Webb have been elected members of the Water Committee for the ensuing term.

ARNOLD, BION J., Chicago, Ill.; John R. Freeman, of Providence, and Frederick Law Olmstead, of Boston, have been retained by the Pittsburg Civic Commission to report on certain large civic problems. Mr. Arnold will investigate the street railway system, with a view of making recommendations as to its betterment; Mr. Freeman will report on the development and improvement of the river front, and Mr. Olmstead on the development of the park land recently given to the city by the daughter of Henry C. Frick.

BELL, MILLER S., Milledgeville, Ga., has been re-elected Mayor.

BOUILLON, A. V., Seattle, Wash., Superintendent of Public Utilities, the only office of its kind in the United States, has been dismissed from office by Mayor John F. Miller, following some charges of graft made by Bouillon.

BRACKETT, WINSLOW M., Trenton, N. J., formerly a superintendent of the Barber Asphalt Paving Company, has been appointed manager of the new asphalt department of the Delaware River Quarry & Construction Company, Lambertville, N. J.

BURRAGE, J. OTIS, of San Francisco, has been retained as consulting engineer on the storm water sewers to be built in Monterey, Cal.

CARLISLE, LOUIS, Birmingham, Ala., has been elected Alderman to fill the vacancy caused by the resignation of Alderman George E. Rutledge.

CHENEY, FREDERICK A., former District Fire Chief of Haverhill, Mass., died Oct. 1.

COLLINS, FRANCIS W., New York, N. Y., has become associated with the Construction Service Company, 15 William Street, New York City, with whom he will be in charge of railway and public utility valuations.

COWLES, WM. P., Minneapolis, Minn., has been appointed consulting engineer for bridge construction for the Park Department.

DAVIDSON, WERNER, Cincinnati, O., Assistant City Engineer, has resigned.

DUBIG, THOMAS J., of Protection Hose Company, of South Bethlehem, Pa., has been elected Fire Chief by a unanimous vote of Council to succeed A. J. Wolfe.

GARGUS, CHARLEY C., Russellville, Ala., has been appointed Marshal, succeeding R. N. Ramsey, resigned.

HALL, FRANK R., Sandusky, O., has been appointed Assistant City Engineer.

HENDERSON, CHARLES R., Quincy, Ill., formerly superintendent of water works and for the past three years manager of the Waterloo, Ia., Water Company, has been appointed manager of the Davenport Ia., Water Company. Mr. Henderson is a member of the executive and finance committees of the American Water Works Association.

LEININGER, WALTER G., Chicago, Ill., one of the youngest engineers in the city service, will have charge of all street repairs next year.

MARTIN, T. COMMERFORD, New York, N. Y., Past-President Am. Inst. E. E., has resigned the editorship of the *Electrical World*, which he has held for more than a score of years, to become Executive Secretary of the National Electric Light Association.

MATTHEWS, NATHAN, JR., Boston, Mass., ex-Mayor, will deliver a course of lectures on municipal government in the

United States, with special reference to Massachusetts cities, at Harvard University.

MILLER, CARROLL, of Pittsburg, Pa., has become engineer of construction for the Providence, R. I., Gas Company.

NELSON, M. O., Minneapolis, Minn., Park Commissioner and Forester, has resigned.

NOBLE, ALFRED, New York, N. Y., has been appointed consulting engineer to the Board of Water Supply, New York City. William W. Brush, engineer of distribution, Board of Water Supply, New York City, has been promoted to Department Engineer.

O'NEEL, JAMES H., and Asbury Randle have been elected members of the Board of Public Works, succeeding B. H. Hughes and Robert W. Graves, resigned.

PARSONS, WILLIAM BARCLAY, New York, and Eugene Klapp, of New York, have been retained by the Commissioners of Dallas, Tex., as consulting engineers on the proposed White Rock water works reservoir.

PEASE, DR. HERBERT D., Albany, N. Y., has announced his resignation as Director of the State Hygienic Laboratory, New York State Department of Health, and his association with the officers of the Lederle Laboratories, 39-41 West 38th Street, New York, Consulting Experts in Applied Chemistry, Bacteriology and Sanitary Science, as Director of the Department of Bacteriology.

POLLARD, JAMES J., Wakefield, Mass., has been appointed Chief of Police.

RICHARDSON, JACK, Louisville, Ky., Councilman, and Alderman J. Duff Reed have resigned.

THOMAS, FREDERIC, Newbern, N. C., engineer of the city lighting plant, was instantly killed October 10 by coming in contact with an arc machine carrying a current of 2,300 volts.

THURSTON, CHARLES H., Cambridge, Mass., formerly Mayor, has been elected City Auditor to succeed Harry T. Upham, resigned.

TRUST, GEORGE, Tacoma, Wash., has been appointed Building Inspector. Mr. Trust has been engaged in the architectural profession in Tacoma since 1892.

WELLS, GEORGE L., Salem, O., has been appointed superintendent of the newly acquired municipal water works.

WESTON, B. LATROBE, Baltimore, Md., Assistant Division Engineer, for the Sewerage Commission, has resigned that position to become Assistant Engineer with the Fidelity & Deposit Company, of Baltimore.

WHITTINGTON, W. F., Ardmore, Okla., F. B. McElroy and Kirk Dyer have been elected members of the new Park Board.

WOOD, W. H., Pasadena, Cal., has been appointed Chief of Police, succeeding Howard H. Favour.

TRADE NOTES

Cast-Iron Pipe.—Chicago: Foundries are not disposed to sell far ahead at the present market in face of the advancing tendency of pig iron. Quotations: 4-inch, \$28.50; 6 to 12-inch, \$27.50; 16-inch and up, \$26.50. Birmingham: Producing capacity is well provided for during the winter months, with orders now in hand. Quotations: 4 to 6-inch, \$26; 8 to 12-inch, \$25; over 12-inch, average, \$24. New York: Foundries supplying this market are practically filled for the remainder of the year. Quotations: 6-inch, carload lots, \$25 to \$25.50 per net ton at tidewater.

Lead.—There is but little buying in the lead market. Some occasional lots of resale lead have been sold under the

price made by the American Smelting and Refining Company, and it would be an easy matter to obtain lead at 4.37½c., although 4.40c. is asked by the leading interests.

Water Works Contractors.—The Hudson Terminal Construction Company has been formed, the organizers of which are as follows: W. H. Van Winkle, President of the Water Works Equipment Company, 50 Church street, New York City; Alvin Bugbee, Superintendent of Water Works, Trenton, N. J.; James W. Burnie, Superintendent Biddeford and Saco Water Company, Biddeford, Me.; J. F. Gleason, Superintendent of Water Works, Quincy, Mass. The main office of the company is located at 50 Church street, rooms 1950-1951, New York City, and the officers are: President, W. H. Van Winkle; vice-president, J. F. Gleason; secretary, J. W. Burnie; treasurer, A. Bugbee. The company has been organized to construct water works of all descriptions, and has just been awarded a \$10,000 contract for the laying of water mains at Stonington, Me.

Automatic Dump Wagon.—Thomas Hughes, Lansdowne, Pa., manufactures an automatic end dump wagon of simple and durable construction. It is claimed to be the shortest coupled wagon on the market and to have no complicated working parts to get out of order. A ratchet attachment allows the operator to hold it at any incline, a feature which recommends it for road resurfacing. The tailboard fits closely, so as to hold very fine material. The wagon weighs 2,000 pounds and is made in 1½, 2 and 2½-yard sizes.

Power Proposition.—The Easton Consolidated Service Corporation, of Easton, Pa., which supplies electric lighting and power and furnishes steam heating, has been merged with the Eastern Pennsylvania Power Company, incorporated last July in Pennsylvania, with \$2,000,000 capital. The latter company is building a big water power plant at the mouth of the Paulins Kill Creek at Columbia, N. J., 20 miles above Easton, and has secured water rights on the Big Bushkill, in Monroe County, where another big power plant is to be erected.

Chapman Valve Company Organization.—The Chapman Valve Manufacturing Company, Springfield, Mass., announces the following changes in its organization: Adolph W. Gilbert is the new president and general manager. Robert Shirley is works manager and engineer. The company has also secured the services of Edwards O. Davis and John Busch. The department of assembling and testing valves and hydrants has been made independent of all other departments of the factory and placed in charge of a capable man, responsible only to the president and general manager, thus insuring a close independent inspection of material and workmanship before assembling.

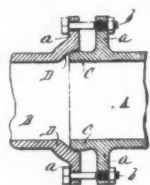
Street Signs.—The Baltimore Enamel and Novelty Company has decided upon extensive improvements and additions to its plant at the northeast corner of Allen and Clement streets. The first improvement will be the erection of five single-story brick houses, absolutely fireproof, which are to be used as enameling houses, and one to be used as a blacksmith shop.

Demountable Rims.—The Firestone Tire and Rubber Company, Akron, O., has published a handsome booklet describing and illustrating its demountable rims.

PATENT CLAIMS

935,572. COMPOSITION FOR BINDING, SURFACING AND RESURFACING PURPOSES IN STREET AND ROAD BUILDING. Joseph H. Amies, Philadelphia, Pa., assignor to the Amies Asphalt Co., Philadelphia, Pa., a corporation of South Dakota. Serial No. 474,316.

The method herein described of making a composition to be used in street and road building and like uses as a binder and for surfacing and resurfacing purposes which consists in coating mineral matter with crude naphtha, gasoline or alcohol with or without mixing them with other suitable light oils, then pouring thereon and mixing therewith hot asphalt cement and the like, then separating the particles of the mass by means of sand and the like, and then agitating the mass until cold to secure a granular and friable composition substantially as and for the purposes set forth.

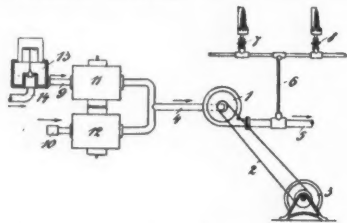


935,412. PIPE-JOINT. Robert R. Rust, New York, N. Y. Serial No. 489,344.

A pipe joint, comprising one member having a curved surface in combination with another member having an angular edge to ride upon and co-operate with the curved surface on said other part. A pipe joint comprising one member having a curved surface in combination with another member having an angular edge with curved surface on said other part, the surface immediately behind said angular edge being curved eccentrically to the curve on the other member.

935,444. PROCESS FOR THE MANUFACTURE OF A MIXTURE OF GAS AND AIR FOR ILLUMINATING PURPOSES. Friedrich W. Wolff, Berlin, Germany, assignor to the firm of Selas-Gesellschaft mit beschränkter Haftung, Berlin, Germany. Serial No. 300,021.

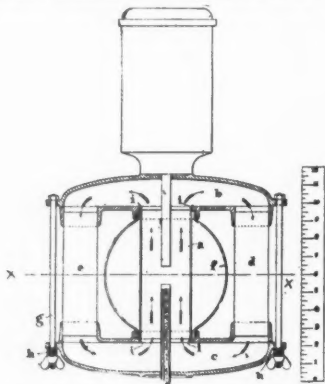
The method herein described of producing a mixture of gas and air, which consists in taking a quantity of gas and a quantity of air at different pressures, and in different volumes, altering the pressure of one



of these two constituents so as to make it exactly equal to the pressure of the other constituent, while maintaining the relative proportion of the two constituents, thus bringing the gas and air to a common pressure before mixing said gas and air together, then mixing said gas and air, and finally increasing the pressure of the mixture to a comparatively high degree for the purpose of forcing said mixture to the place of consumption.

935,518. ELECTRIC-ARC LAMP. Adrian D. Jones, Holloway, London, England. Serial No. 393,145.

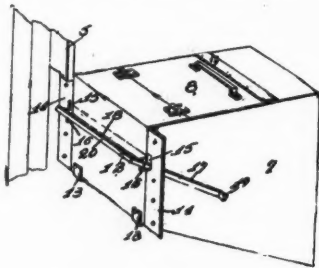
In an electric arc lamp, the combination with an arc inclosing chamber and draft chambers communicating with the upper



and lower ends thereof, of an air conduit located outside the arc inclosing chamber and serving to connect the upper and lower draft chambers, said parts being constructed to form a substantially air-tight structure and provide an unobstructed passage from the upper to the lower end of the arc inclosing chamber, substantially as set forth.

935,800. GARBAGE RECEPTACLE. Gustave A. Mauller, St. Louis, Mo. Serial No. 453,043.

In a garbage receptacle, the combination of a main body section having a bottom inclined upwardly from the rear toward the front, a cover hingedly mounted on the top of said body section, a door hingedly and vertically mounted at the front of said



body section, a catch-member pivotally mounted on the outer face of said door and provided with a transverse bar parallel with the outer face of the door, and means whereby said door when opened is held in alignment with the plane of the bottom of the body section, substantially as specified.

935,896. ARC LAMP. John T. H. Dempster, Schenectady, N. Y., assignor to General Electric Company, a Corporation of New York. Serial No. 258,209.

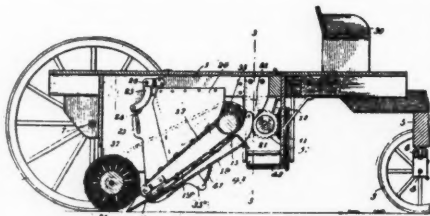
In an arc lamp, the combination of a pair of stationary main electrodes one of which is a conductor of the first class and the other composed of a material which is liable to become a conductor of the second class under the action of the arc, but is incased in a conductor of the first class, with a movable auxiliary electrode in permanent electrical connection with the first-named stationary electrode, and means for moving it from engagement with the inclosure of the second stationary electrode a distance greater than the distance between the two stationary electrodes.

935,908. ARC LAMP. Caryl D. Haskins, Schenectady, N. Y., assignor to General Electric Company, a Corporation of New York. Filed Feb. 18, 1907. Serial No. 357,904.

In an arc lamp, an electrode, and means for automatically building it up at one end as the other end wastes away during the operation of the lamp.

935,821. STREET SWEEPING MACHINE. James Santin, El Reno, Okla. Serial No. 448,844.

In a street sweeper, the combination of a main frame, an elevator platform upon the main frame, an elevator belt mounted over the platform, wheels around which the elevator belt passes, levers upon which the wheels are mounted, the said levers being pivoted upon the elevator platform and ex-



tended beyond their pivot points, springs co-operating with the extended portions of the levers to hold the elevator belt yieldingly in position, and means for collecting the sweepings and delivering them to the elevator belt.

935,857. HYDRANT. Walter K. Palmer, Kansas City, Mo. Serial No. 478,515.

A hydrant comprising a stand-pipe having a divided-passage curved portion, a hollow conical enlargement between and connecting the divided-passage sections of the curved portion, a base-plate closing the bottom of said enlargement, a conical valve fitting in the said enlargement and provided with a tubular portion curved on the same radius as said divided-passage sections of the stand-pipe, and means whereby said valve may be turned to cause its tubular portion to form a connecting part or continuation of said sections or close communication therebetween.

935,412. PIPE-JOINT. Robert R. Rust, New York, N. Y. Serial No. 489,344.

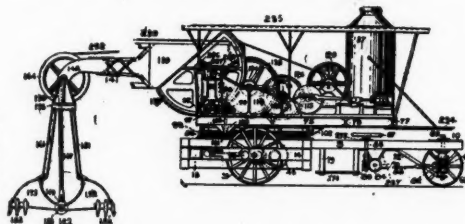
A pipe joint, comprising one member having a curved surface in combination with another member having an angular edge to ride upon and co-operate with the curved surface on said other part.

936,074. ELECTRICALLY OPERATED VALVE. Warren W. Annable, Grand Rapids, Mich., assignor to The Starter Manufacturing Company, Grand Rapids, Mich., a Corporation of Michigan. Serial No. 492,114.

An electrically operated valve, comprising a magnet having an axial opening therethrough and a side passage communicating with said opening, a valve to close said opening, an armature moved by the magnet and connected to the valve to open the same, and a check valve in said passage to prevent ingress of fluid and to permit fluid to escape.

936,179. EXCAVATOR. William O. Stark, Chicago, Ill. Serial No. 464,968.

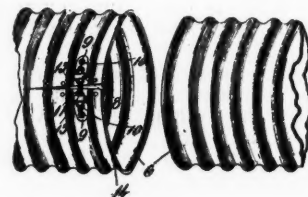
In an excavating and trenching machine, a boom; a horizontal axle upon which said boom is mounted; standards having bear-



ings for said boom; segmental gears at the pivoted end of the boom concentric with the axis of the boom; gearing engaging the segment-gears, and means for operating the gearing.

935,971. METAL CULVERT. Otto A. Haas, Emporia, Kan. Serial No. 408,782.

A cylindrical structure formed of sections of corrugated sheet metal, a corrugation at the end of one overlapping a cor-



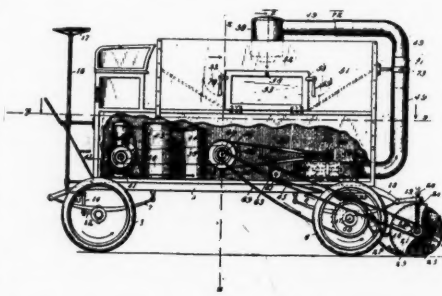
rugation at the end of the other, the outer section having a longitudinal seam, lugs fastened to the edges of the section on opposite sides of the seam, and a screw connecting the lugs and adapted to close the longitudinal seam and clamp the outer section on the inner one.

935,992. EXCAVATOR. Joseph P. Kerr, Versailles, Ill. Serial No. 453,869.

The combination in an excavator of a frame; an upwardly-inclined elevator carried thereby; means for driving the elevator; a plow located at the foot of said elevator; a rotatable shaft upon which the plow is mounted, and a lever secured to the shaft for rotating the same in either direction, to swing the plow bodily to one side or the other for reversing the position of the latter with respect to said elevator.

935,798. STREET SWEEPER. Edward W. Liberty, Chicago, and William J. McElroy, Downers Grove, Ill. Serial No. 436,914.

In a street sweeper, in combination with a wheeled vehicle, a motor suitably mounted in said vehicle, means for steering said vehicle, a suitable power transmission means connecting said motor and the vehicle propelling wheel, rearwardly and outwardly extending arms on said vehicle, eyes at the terminals of said arms, mem-



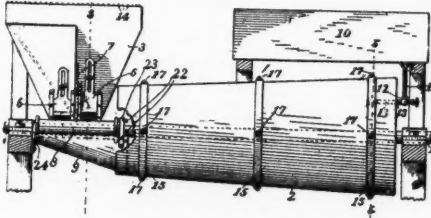
bers adapted to reciprocate vertically through said eyes, means exerting yielding resistance to the upward movement of said members in said eyes, a cylindrical brush rotatably mounted in said members, and power transmission means from said motor to said brush, substantially as described.

935,920. **ARC LAMP.** Edwin J. Murphy, Glasgow, Scotland, assignor to General Electric Company, a Corporation of New York. Serial No. 340,699.

An arc lamp frame consisting of a hood, a platform, and two parallel channel bars, the ends of said channel bars being bent laterally to form ears, and means for securing the ears at one end of said bars to the hood and those at the other end to the platform.

935,782. **CONCRETE MIXER.** Milton J. Demorest, Belding, Mich., assignor to Ballou Manufacturing Company, Belding, Mich. Serial No. 266,016.

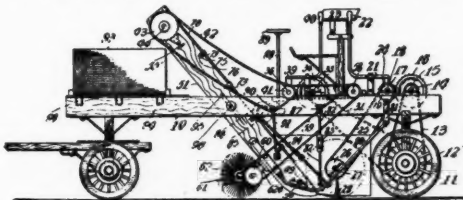
In a concrete mixer, a hopper having a side opening, a vertically adjustable gate for said opening, a horizontally movable belt forming a bottom to the hopper, said belt also being vertically yieldable opposite



the gate and having its margins extended beyond the gate, supports for margins only of the belt, and means for moving the belt.

935,991. **STREET SWEEPER.** Michael J. Kane, Worcester, Mass. Serial No. 373,904.

In a street sweeper, the combination with a vehicle body of an elevator casing or support movably mounted thereon and extending below the body, inclined arms extending upwardly and rearwardly from the bottom of the casing and pivoted at their upper ends to the vehicle body, a flexible adjustable device depending sub-



stantially vertically from the vehicle body and connected with said arms for limiting the lowermost position of the conveyor casing, and means connected with said arms and extending upwardly forward for raising and lowering said casing independent of said limiting device.



SEWER BUILT OF VITRIFIED CLAY HOLLOW BLOCKS

MUNICIPAL APPLIANCES

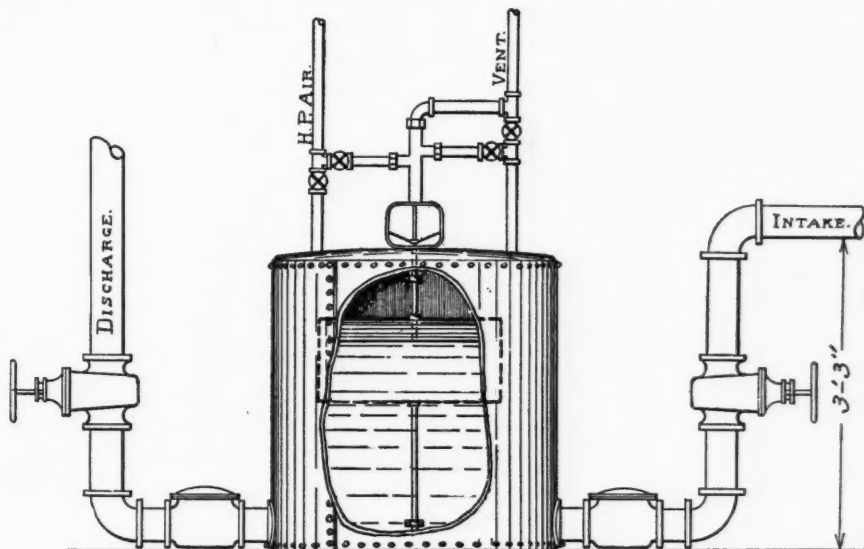
Vitrified Clay Sewer Blocks

THE Davenport Brick & Tile Company, Davenport, Ia., manufactures a vitrified clay hollow sewer block. The accompanying illustration shows the use of these blocks in sewer construction. This drain is built from hollow blocks made of clay. The blocks are first burned to a vitrified stage and are concaved according to the size of the sewers. The blocks are 12 inches long, varying from 6 to 7 inches on the inside and from 9 to 10 inches on the outside in width. The walls of the blocks are about $1\frac{1}{4}$ inches, are burned as hard as paving brick and are laid in cement so that when completed they form a perfectly round pipe. If this pipe-like construction be cemented on the inside it will carry water at the

same rate of speed as any glazed pipe or concrete tunnel. The blocks are claimed to be specially valuable for culvert construction on account of their thickness and strength. The manufacturers have made estimates upon the use of various kinds of material, such as vitrified brick and concrete, and make the claim that a sewer constructed of this hollow block will cost 25 per cent less than brick or concrete. Simplicity, reliability and economy are the claims made for the material.

Automatic Sewage Ejector

THE Ansonia Manufacturing Company, 355 West Twenty-sixth street, is now the owner of the patents issued to John W. Cooney for automatic sewer ejectors. The machines are operated automatically by compressed air generated at a central power station or by an individual plant located in the im-



ANSONIA AUTOMATIC SEWAGE EJECTOR

mediate vicinity. The device is simple in construction and its operation is not interfered with by sand pebbles or debris of any kind. The ejector consists of a receiving tank placed sufficiently low to permit the proper draining by gravity of all fixtures connected with it and proper pipe connections. Within the receiver is placed a cylindrical float which travels freely on a guide rod between two striking points, one placed at the top and the other at the bottom of the receiver. This rod is attached to an operating valve placed on top of the receiver. When the float is raised by reason of the inflowing liquid, the top striking point on the guide rod retards the upward travel of the float, which becomes partially submerged as the receiver fills, giving additional buoyancy. This opens the operating valve, which permits compressed air to escape into the receiver which discharges the liquid contents by displacement. As the level of the liquid in the receiver falls, the float descends until it rests on the bottom striking point. This closes the operating valve, cutting off the air pressure from the receiver and simultaneously opening the relief port, which allows the receiver to refill as before; the operation being repeated as often as the receivers refill. The air compressors can be operated by electricity, steam, gas or oil engines, or in fact any power that is most convenient or economical under the existing conditions.

THE WEEK'S CONTRACT NEWS

Relating to Municipal and Public Work—Street Improvements—Paving, Road Making, Cleaning and Sprinkling—Sewerage, Water Supply and Public Lighting—Fire Equipment and Supplies—Bridges and Street Railways—Sanitation, Garbage and Waste Disposal—Police, Parks and Miscellaneous—Proposals and Awards

To be of value this matter must be printed in the number immediately following its receipt, which makes it impossible for us to verify it all. Our sources of information are believed to be reliable, but we can not guarantee the correctness of all items. Parties in charge of proposed work are requested to send us information concerning it as early as possible; also corrections of any errors discovered.

BIDS ASKED FOR

STREET IMPROVEMENTS

Dist. Columbia.	Washington.	Oct. 15, noon	Bituminous macadam pavement, curb, gutter, 13th st., N.W.	Maj. W. V. Judson, Engr. Comr.
New Jersey.	Elizabeth.	Oct. 15	Trap block pavement, 4,710 sq. yds. on 7th st.	N. K. Thompson, Street Comr.
Missouri.	St. Louis.	Oct. 15	Bldg. granitoid sidewalks on numerous streets.	W. B. Dryden, Secy. Bd. Pub. Impvts.
Indiana.	Covington.	Oct. 15	Bldg. Bowen gravel road in Davis township.	W. P. Gray, County Auditor.
Alabama.	Fort Morgan.	Oct. 15, 1:30 p.m.	Brick and wood road paving, granolithic walks.	Capt. H. B. Chamberlin, Q.M., U.S.A.
New York.	Buffalo.	Oct. 16, 11 a.m.	Repaving 4 streets, according to specifications.	F. G. Ward, Comr. Pub. Wks.
Arkansas.	Pine Bluffs.	Oct. 16	Brick, wood block or other paving, 32,000 sq. yds., curb, etc.	E. Hale, City Engineer.
Illinois.	Cicero.	Oct. 18	Bldg. cement sidewalks on 3 streets and 2 avenues.	L. O. Fitzpatrick, Sec'y Bd. Loc. Impt.
Ohio.	Dayton.	Oct. 18, noon	Paving, any hard material, 35,500 sq. yds, 3 sts.; 25,000 sq. ft. cement walks, 4,500 cu. yds grading, 11,600 lin. ft. comb. curb and gutter, 5,180 lin. ft. stone curb, etc.	Wm. A. Budroe, Clk. Bd. Pub. Serv.
Ohio.	Toledo.	Oct. 18, noon	Asphalt, brick, wood block or other paving, etc., Foraker ave.; macadam or petroliothic paving, Bassett street.	Reynold Voit, Secy. Bd. Pub. Serv.
Ohio.	Maumee.	Oct. 18, noon	Brick block paving on concrete, grading, etc., Conant street.	George V. Raub, Village Clerk.
Washington.	Fort Ward.	Oct. 18, 11 a.m.	Bldg. gravel roads, concrete walks, brick gutters, manholes, etc.	Capt. E. C. Long, Constr. Q.M.
New York.	New Brighton, S.I.	Oct. 19	Furn. 2,600 tons 1½x3½-in. broken stone and screenings.	Geo. Cromwell, Borough President.
Alabama.	Huntsville.	Oct. 19, noon	Paving, curb, gutter, sidewalks on Eustis street.	Thomas W. Smith, Mayor.
Ohio.	Toledo.	Oct. 19	Grading, draining, macadamizing, 3¼ miles road, 2 twps.	D. T. Davies, Jr., County Auditor.
New York.	Brooklyn.	Oct. 20, 11 a.m.	Asphalt paving, 29,800 sq. yds., 8 sts., 5 yr. guarantee; 29,800 sq. ft. cement walks, 5 sts.; 1,381 sq. yds. asphalt block; 36,790 cu. yds. earth filling.	Bird S. Coler, Borough President.
New York.	White Plains.	Oct. 20, 8 p.m.	Relaying sidewalks 5 ft. wide on William street.	F. S. Barnum, Pres. Bd. Trustees.
Ohio.	Columbus.	Oct. 20	Brick block or other pavement, grading, etc., Capitol and Stimel streets.	E. W. Hirsch, Secy. Bd. Pub. Serv.
New York.	Ft. H.G. Wright.	Oct. 21, 10 a.m.	Bldg. 1,700 lin. ft., 16-ft. macadam road and 2,000 lin. ft. 5-ft. cement sidewalks at fort.	Constructing Quartermaster.
Louisiana.	Baton Rouge.	Oct. 21	Repaving Main, North blvd., and other streets, 20,000 sq. yds. resurfacing bituminous asphalt, wood block, etc.	Fred. Perkins, City Auditor.
Ohio.	Orrville.	Oct. 25, noon	Improving Walnut street.	A. L. Reed, Village Clerk.
Pennsylvania.	Pittsburg.	Oct. 26, noon	Bldg. 3 brick roads, .9 mile, \$7,500 bond; 4.12 miles, \$30,000 bond; 4.04 miles, \$30,000 bond; brick or concrete, 1.8 miles, \$15,000 bond; macadam, .9 mile, \$1,000 bond.	R. J. Cunningham, County Aud.
Colorado.	Ft. Rosecrans.	Oct. 27	Bldg. 3 miles macadam roads, culverts, gutters, etc.	Lt. C. A. Lohr, Constr. Q. M.
Ohio.	Steubenville.	Oct. 27, noon	Grading, sewer, macadamizing 7 sections of road.	J. F. Vermillion, Chm. Co. Comrs.
New Jersey.	Hoboken.	Oct. 27	Asphalt paving portions of 3d, 5th and 7th streets.	James H. Londrigan, City Clerk.
Ontario.	Berlin.	Oct. 28	Brick, asphalt or other pavement on King street.	A. H. Millar, Town Clerk.
Indiana.	Fowler.	Nov. 4, 1 p.m.	Bldg. stone road on County line; cost, \$12,590.	Lemuel Shipman, County Auditor.

SEWERAGE

New Jersey.	Elizabeth.	Oct. 15, 8 p.m.	Constructing sewers in various streets.	N. K. Thompson, Street Comr.
Iowa.	Lake City.	Oct. 18, 8 p.m.	Bldg. 750 ft. 10-in.; 950 ft. 12-in.; 1,000 ft. 15-in. and 625 ft. 18-in. sewer 8 to 10 ft. deep; one flush tank, 6-in. Miller special siphon and 8 x 16 x 20 ft. sewage tank.	City Council.
California.	Colusa.	Oct. 18	Bldg. \$50,000 sewer system and \$50,000 water system.	J. W. Kaerth, City Engineer.
West Virginia.	Huntington.	Oct. 18, 2 p.m.	Material and labor for 12-in. lateral sewer in alley.	City Commissioners.
South Dakota.	Salem City.	Oct. 18	Bldg. main sewers in Main st. and Norton ave., sewers other sts.	N. M. Nelson, City Auditor.
Texas.	Canyon City.	Oct. 19, 2 p.m.	Bldg. sanitary sewers and water works system, inc. 15,526 ft. 6-in.; 14,538 ft. 8-in.; 3,130 ft. 12-in. sewer pipe, one disposal plant, etc.	E. L. Dalton, C.E., Dallas.
Washington.	Fort Worden.	Oct. 22, 11 a.m.	Constructing additions to sewer system.	Capt. E. C. Long, Constr. Q. M.
Minnesota.	Shakopee.	Oct. 23, 8 p.m.	Bldg. 6,000 ft. 8, 10 and 15-in. sewer, 6 to 12 ft. deep.	Alex. Schaefer, City Recorder.
Kansas.	Wichita.	Oct. 25, 9 a.m.	Bldg. sanitary sewer No. 12; also lateral extensions.	Bert C. Wells, City Engineer.
West Virginia.	Huntington.	Oct. 25, 2 p.m.	Bldg. 12-in. lateral sewer in Railroad ave. First Ward.	John Coon, Comr. Sts. & Sewers.
Ohio.	Steubenville.	Oct. 27, noon	Sewering, grading, macadamizing Bloomfield & Smithfield pike.	Board County Commissioners.
Ohio.	Cleveland Hts.	Nov. 2, noon	Bldg. sanitary sewers 770 ft. along Warrens C. and V. road.	Wm. G. Phare, Village Clerk.
Ontario.	Toronto.	Nov. 16	Furn. 3,000 ft. 60-in. riveted steel pipe, 500 ft. riveted tapered steel pipe; also 1,782 ft. 60-in. rein. concrete pipe for outfall sewer.	Joseph Oliver, Mayor.

WATER SUPPLY

Michigan.	Howell.	Oct. 15, noon	Bldg. water supply system for State Sanatorium.	Treas. State Sanatorium.
North Carolina.	Asheville.	Oct. 15	Making watertight a 5,000,000-gal. concrete reservoir.	B. M. Lee, City Engineer.
Minnesota.	Jeffers.	Oct. 15	Drilling a well.	L. A. Durre, Village Recorder.
Oklahoma.	Oklahoma City.	Oct. 18	Furn. and install pumping engine, high-speed steam engine and electrical apparatus.	Vincent G. Shinkle, Supt. of Water.
California.	Colusa.	Oct. 18	Constructing \$50,000 water works and \$50,000 sewer system.	A. B. Jackson, Town Clerk.
New Jersey.	Atlantic City.	Oct. 19, 2:30 p.m.	Bldg. 25,500 ft. 48-in. wood stave force main to city.	L. Van Gilder, Engr. Water Works.
Texas.	Canyon City.	Oct. 19, 2 p.m.	Bldg. water works and sewer system, inc. 6,000 ft. 8-in.; 1,440 ft. 6-in., c. i. pipe; 17 fire hydrants, one steel tower, concrete storage tank, gasoline engine.	J. N. Haney, Mayor.
New Jersey.	Haeldon.	Oct. 19	Bldg. slow sand filtration plant, filtered water reservoir, etc.	W. J. Turner, Borough Clerk.
New York.	New York.	Oct. 20, 11 a.m.	Bldg. portions Croton and Kensico divisions, Catskill aqueduct.	J. A. Bense, Pres. Bd. Water Supply.
Ohio.	Columbus.	Oct. 20	Furnishing 200 tons, 6, 8 and 12-in. c. i. pipe for W. W. Dept.	E. W. Hirsch, Secy. Bd. Pub. Serv.
Pennsylvania.	Pittsburg.	Oct. 20	Furn. and install two 7,000,000-gal. pump, engines, So. Side.	Jos. G. Armstrong, Dir. Dept. Pub. Works.
North Carolina.	Wilmington.	Oct. 21, noon	Material and labor for bldg. distributing system.	C. W. Worth, Chm. Wtr. & Sew. Com.
Missouri.	Kansas City.	Oct. 21, 2 p.m.	Furn. and erect 25,000,000-gal. cent. pump, dir. con. to vert. condensing engine, complete.	S. J. Armstrong, Sec'y Bd. Fire and Water Commissioners.
Colorado.	Cortez.	Oct. 23	Sinking an artesian well at or near Cortez.	C. W. Comstock, State Engr., Denver.
South Dakota.	Rapid City.	Oct. 28, 2 p.m.	Bldg. complete gravity water system at Indian School.	Comr. Indian Affrs., Wash., D. C.
Ontario.	Toronto.	Oct. 28, noon	Furn. turbine pumps; four 13,500,000-gal., 100 lbs. pressure; two 5,000,000-gal., 300 lbs.; two 10,000,000-gal., 65 lbs. and two 110 lbs.; two 6,500,000-gal., 90 lbs. and two 160 lbs.; two 1,500,000-gal., 65 lbs. and two 110 lbs. pres.; also valves, piping, bed-plates, couplings, etc.	Joseph Oliver, Mayor.
Wyoming.	Casper.	Oct. 28, 2 p.m.	Bldg. Pathfinder dike, 45 miles s.w.; 160,000 cu. yds. excav.; 8,000 cu. yds. pavement; 2,000 cu. yds. concrete masonry.	U. S. Reclam. Serv., Denver, Col.
Pennsylvania.	Philadelphia.	Nov. 4	Converting Queen Lane pumping station into a filtration plant, equipment to cost \$65,000, inc. two 2,000,000-gal. pumps, for sand washing, two 5,000,000-gal. centrifugal pumps, for washing filter beds, 2 electric light generators, four 100-h.p. boilers, coal handling plant, with traveling crane, etc.; total, \$2,000,000.	Dept. of Public Works.

BIDS ASKED FOR

STATE	CITY	RECEIVED UNTIL	NATURE OF WORK	ADDRESS INQUIRIES TO
WATER SUPPLY.—Continued				
Pennsylvania...	Titusville.....	Nov. 4.....	Furn. 1,500 ft. 6-in. c. i. pipe; also 3-way fire hydrant, etc.	Water and Light Commissioner.
Nebraska.....	Belden.....	Nov. 4.....	Bldg. \$8,000 w. w.; Arnold C. Koenig, C. E., Bee Bldg., Omaha.	F. B. Barber, Village Clerk.
Texas.....	Dallas.....	Nov. 10, 3 p.m.....	Furn. and install 15,000,000-gal. pumping engine of vertical triple expansion, cond. crank and fly wheel self-cont. type....	J. B. Winslett, City Secretary.
BRIDGES				
Illinois.....	Chicago.....	Oct. 15.....	Removing and disposing of superstructure, turn-table and center-pier protection of Fuller st. bridge and dredging river at site.....	John J. Hanberg, Comr. Pub. Wks.
West Virginia..	Elkins.....	Oct. 15, 2 p.m.....	Bldg. steel bridge over Leading Creek; reblgd. abutments.....	S. A. Rowan, County Clerk.
Pennsylvania..	York.....	Oct. 15, 10 a.m.....	Bldg. rein. concrete bridge, 40-ft. span, 14 ft. roadway.....	Geo. F. Bortner, Chm. Co. Comrs.
New Mexico....	Shiprock.....	Oct. 15, 2 p.m.....	Bldg. steel hwy. bridge over San Juan river in S. J. Reservation.	Wm. F. Shelton, Supt. Ind. Reserv.
Indiana.....	Winchester.....	Oct. 16.....	Constructing steel and concrete bridges.....	Board of County Commissioners.
California.....	Redwood City.....	Oct. 18, 10 a.m.....	Bldg. concrete culvert and wooden trestle bridge.....	Jos. H. Nash, Clk. County Superv.
California.....	Oakland.....	Oct. 18.....	Bldg. \$10,000 comb. bridge over Alameda Creek.....	Board of County Supervisors.
Louisiana.....	Natchitoches.....	Oct. 18, 10 a.m.....	Bldg. creosoted pile bridge over Black Lake.....	P. E. Prudhomme, Pres. Police Jury
Ohio.....	Newark.....	Oct. 19, noon.....	Bldg. superstructure of two bridges.....	U. N. Wright, County Auditor.
Rhode Island..	Pawtucket.....	Oct. 21.....	Bldg. No. Main st. bridge to Central Falls, \$5,000 appropriation.	Jas. A. Carpenter, City Engineer.
Kansas.....	Topeka.....	Oct. 22.....	Construct. 150-ft. span steel bridge over Camp Creek, Monm. twp.	F. B. Simons, Chm. Co. Comrs.
Kansas.....	Lawrence.....	Oct. 23, noon.....	Furn. steel and bldg. bridge over Rock Creek in Tp. 14, R. 17.	W. R. Green, County Clerk.
Ohio.....	Flushing.....	Oct. 25, 1 p.m.....	Bldg. concrete superstructure for Buttermill Bridge No. 2.....	Roy Cope, Co. Aud. St. Clair St.
Brit. Columbia.	Vancouver.....	Oct. 25, 4 p.m.....	Bldg. bridge over False Creek, bet. Bridge and Beatty sts.; 3,375 ft. long, with 264-ft. elec. op. swing span on concrete piers, 66 deck plate girder spans, 35 to 80 ft. long, on steel bents on concrete pedestals; approaches, 150 ft. long; roadway, 44 ft. wide; creos. wood floor; two 6-ft. walks.....	Mayor and City Council.
Ohio.....	Cleveland.....	Oct. 27, 11 a.m.....	Bldg. concrete culvert Center rd., Rocky River twp.....	Wm. F. Black, County Clerk.
Manitoba.....	Assessippi.....	Oct. 27.....	Bldg. steel bridge over Assiniboine river.....	F. G. Richardson, Clk. Shellmouth.
Ohio.....	Bucyrus.....	Oct. 30, noon.....	Bldg. stone substructure; also 120 ft. superstructure, with 7 panels, of 16 ft. 10 1/2 in. each, 20 ft. roadway, concrete floor and two 8-ft. walks; live load, 300 lbs. per lin. ft.....	J. I. Smith, County Auditor.
Virginia.....	King William....	Nov. 1, noon.....	Plans and proposals for bldg. steel bridge over Harrison Creek; 38 ft. long, 12 ft. inside width, 7 ft. above bed of creek, white oak floor, 2 inches thick.....	B. C. Garrett, Clk. Co. Supervisors.
Arizona.....	Phoenix.....	Nov. 2.....	Bldg. Center st. bridge; plans by Mayberry & Parker.....	Chm. Hoghe, Bd. Supervisors.
Louisiana.....	Tallulah.....	Nov. 3.....	Bldg. bridge over Roundaway Bay; 140 ft. long, 16 ft. wide, with 60-ft. span; approaches to be filled.....	A. L. Slack, Sec'y Police Jury.
Indiana.....	Fowler.....	Nov. 4, 1 p.m.....	Bridging, draining, etc., C. J. Fox stone road; cost, \$12,590...	Lemuel Shipman, County Auditor.
Illinois.....	Batavia.....	Nov. 29.....	Building steel bridge over Mahanoy Creek.....	Town Commissioners.
LIGHTING AND POWER				
Montana.....	Helena.....	Oct. 18, noon.....	Furn. and deliver, f. o. b. Helena, equipment for elec. light plant.	J. A. Mattson, City Clerk.
Wisconsin.....	Madison.....	Oct. 19.....	Furn. material for heat, light and power plant for Capitol, except boilers, engines, dynamos and pumps.....	Lew. F. Porter, Sec'y Capitol Com.
Indiana.....	New Albany.....	Oct. 20.....	Lighting streets and alleys by electricity for 10 years from Sept. 1, 1910; \$10,000 check with each bid.....	John C. Short, City Clerk.
Texas.....	Galveston.....	Oct. 21, noon.....	Furn. dir. con. engine generator set of 150 k.w., inc. switch-board, etc., and installing in city power plant.....	W. D. Masterson, Supt. Electricity.
New York.....	New York.....	Oct. 21.....	Material and labor for installing light and power plant in new Public Library, Fifth ave., 40-42d streets.....	Henry Smith, Pres. Park Board.
South Carolina.	Columbia.....	Oct. 25.....	Lighting streets of city; S. L. Sweeney, Chm. Lt. Com.....	G. F. Cooper, City Clerk.
Utah.....	Fort Douglas.....	Oct. 26, 10 a.m.....	Constructing electric lighting system complete.....	Lt. K. P. Williams, Act. Q. M.
Ohio.....	Cincinnati.....	Oct. 27, noon.....	Bldg. brick power house at State Penitentiary.....	G. U. Marvin, Sec'y-Treas. State Pen.
Ontario.....	Toronto.....	Oct. 28, noon.....	Furn. four 1,500, four 500 and two 225 h.p. synchronous motors; also two 1,500 and four 500 h.p. induction motors, with exciters, switchboards, connecting material, etc.....	C. H. Rust, City Engineer.
Georgia.....	Savannah.....	Nov. 8.....	Illumination by 610 electric arc, also incandescent, lamps of city streets, and for sale to city of electric current for illumination, heat or power.....	Harry Willink, Dir. of Pub. Wks.
MISCELLANEOUS				
New York.....	New York.....	Oct. 14, 10:30 a.m....	Furn. and delivering 21,000 ft. underground lead-covered cable for fire alarm telegraph system.....	Nicholas J. Hayes, Fire Com'r.
New York.....	New York.....	Oct. 15, 10:30 a.m....	Furnishing 2 fourth-size steam fire engines, 3 combination hook and ladder trucks and chemical engines.....	Nicholas J. Hayes, Fire Com'r.
New York.....	New York.....	Oct. 18, noon.....	Furn. iron, steel, tools, machinery, etc., for Dock Dept.....	Allen N. Spooner, Com'r of Docks.
Alabama.....	Montgomery.....	Oct. 18, noon.....	Bldg. warehouse platform and superstructure of incline for city wharf; also concrete substructure, 300 cu. yds.; also furn. and install hoisting and haulage machinery.....	Robert Tait, City Treasurer.
California.....	Los Angeles.....	Oct. 18.....	Furn. and erect., complete, rock-crushing plant, inc. sizing machinery and storage bins with guaranteed capacity of 500 tons per 8-hr. day, near Pasonia on So. Pac. Ry.....	C. G. Keyes, County Clerk.
New Jersey.....	Trenton.....	Oct. 18, noon.....	Bldg. slag roof on wing No. 3 of State Prison.....	S. W. Kirkbride, Superv. State Prison.
New Jersey.....	Trenton.....	Oct. 19, noon.....	Dredging section of proposed inland waterways from Cape May to Bay Head, inc. removal of 145,000 cu. yds. material, place measurements.....	Harry W. Schneider, Intl. W. W. Comr. Camden Water Works Co.
New Jersey.....	Camden.....	Oct. 20, 8 p.m.....	Reslating roof of Morris pumping station.....	Henry Smith, Pres. Park Board.
New York.....	New York.....	Oct. 21, 3 p.m.....	Bldg. comfort stations and shelter for women and children in Chelsea Park, 9th ave. at 27th street.....	Henry Smith, Pres. Park Board.
New York.....	New York.....	Oct. 21, 3 p.m.....	Bldg. iron railings around grass plots B'wy, 104th to 110th sts.	City Council.
California.....	Santa Barbara.....	Oct. 21.....	Sale of franchise for electric railway.....	Board of Supervisors.
California.....	Los Angeles.....	Oct. 22.....	Franchise to build street railway on W. Adams street.....	F. C. O'Rourke, Sec'y Boro. Council.
Pennsylvania..	New Brighton.....	Nov. 1, 7 p.m.....	Furnishing hook and ladder truck.....	M. Peterson, Sec'y Bd. of Control.
Manitoba.....	Winnipeg.....	Nov. 1, 11 a.m.....	Furn. motor hose wagon, to carry 2,000 ft. 2.5-in. cotton, rubber-lined fire hose and six men.....	

STREET IMPROVEMENTS

Anneton, Ala.—Tax Assessor Dave Cowden has formed a plan to have the County Commissioners levy a 3 mill tax for roads.

Bessemer, Ala.—Council is considering the inauguration of extensive street improvements; ordinance is being considered for paving 2d ave. from 18th to 21st sts. and 20th st. from 1st to 5th aves., at a total cost of about \$50,000; vit. brick will be used.

Birmingham, Ala.—Board of Revenue will expend about \$6,000 in repairing three miles of Tuscaloosa road at its southwestern extremity in Jefferson County.

Brewton, Ala.—The Grand Jury has recommended to the Commissioners' Court that an election be ordered on issuing \$100,000 bonds for road purposes.

Mobile, Ala.—A petition for an election in Butler County to authorize the issue of

\$200,000 bonds for road building is in circulation.

Hot Springs, Ark.—Park ave. is soon to be paved; the Commissioners appointed by the property owners are Charles Birnbaum, W. S. Sarells and T. M. Dodson; material not decided on.

Modesto, Cal.—Stanislaus County will soon vote on bonds for the improvement of roads.

Sacramento, Cal.—The Board of Trustees has passed a resolution for grading and improving W. st.

San Bernardino, Cal.—City invites bids for macadamizing and oiling four streets and laying cement gutters and culverts.—Harry Allison, City Clerk.

San Bernardino, Cal.—A resolution has been passed ordering the improvement of 4th st. by surfacing with broken stone and asphalt.—Harry Allison, City Clerk.

San Bernardino, Cal.—Bids will be called for for 18 blocks of street improvements.

Fairfield, Conn.—Appropriating \$20,000 for State highways, to be expended during the next two years, has been voted for; actual outlay to the town will be but \$2,500 annually; appropriation for repairs to macadam roads \$1,000; \$1,000 for straightening and repairing Villa ave.

Hartford, Conn.—Plans for the improvement of 4,000 lin. ft. on the Hartford and Willimantic turnpike have been received from W. Leroy Ulrich, Engineer.

Plans for 3,900 lin. ft. on the Shewville highway in the town of Ledyard have been received by the State Highway Commissioner from Chandler & Palmer, Engineers.

New Britain, Conn.—City will probably have Main st. paved in spring, when Cain Co. will lay double track.—Address Mayor Landers or City Engineer Oldershaw.

New Britain, Conn.—City will ask for \$20,000 for road building under the State Highway act.—Edward Wiegand, President Board of Public Works.

Jacksonville, Fla.—Citizens of Duval County will vote Oct. 26 on issue of \$1,000,000 bonds for construction of paved, macadamized or hard surfaced roadways, not more than \$250,000 to be expended in any one year.—F. D. Cassidy, Clerk County Commissioners.

Boise, Ida.—City Engineer has recommended that 40 blocks of new paving be constructed as extensions of the present paving estimates as follows: Bitulithic, concrete base, \$166,808; bitulithic, stone base, \$151,348; concrete, \$101,352; asphalt, \$167,625; wooden block, \$270,472.

Streator, Ill.—Council has passed an ordinance providing for the paving of a portion of S. Illinois st.; Council is also preparing an ordinance for about one mile of brick pavement on several streets.—John B. Patterson, City Clerk.

Fort Wayne, Ind.—For maintenance and repair of streets \$13,000 has been appropriated, and \$10,000 for new street improvements.

Indianapolis, Ind.—Appropriation of \$25,000 has been authorized for paving street and alley intersections next year.—B. H. Miller, City Engineer.

Council Bluffs, Ia.—Vit. brick block pavements on 4-in. concrete base will be laid in Madison and Hyde aves.—Thos. Maloney, Mayor; A. W. Casady, City Clerk.

Marshalltown, Ia.—Council has passed resolution to pave alleys in blocks between Main and Church sts. and 2d and 3d aves. with brick.

Sioux City, Ia.—The city will borrow from the Barber Asphalt Co. tools and appliances for repairing the asphalt pavement, and will postpone the purchase of an outfit for repair work until another year.

Lawrence, Kan.—Hancock st. is to be graded, curbed and paved from Delaware st. to New Jersey st., paving to consist of two courses of brick, with sand foundation, sand cushion and sand filler; the curb of limestone or of cement concrete, alley will be paved with one course of brick on 4-in. concrete base, sand cushion and grout filler.—F. D. Brooks, City Clerk.

Brooksville, Ky.—Bracken County will probably construct three miles of limestone and macadamized roads during next 12 months; approximate cost \$1,500 per mile.—Chas. H. Toleman, Augusta, Supervisor of Roads.

Louisville, Ky.—A number of street improvement ordinances have been passed.—John Chambers, City Engineer.

Baltimore, Md.—The Highways Commission and other city officials are urging a loan of \$5,000,000 for continuing the paving of the Annex.—B. T. Fendall, City Engineer.

Baltimore, Md.—Councilman Berriwanger and others will endeavor to have the Board of Estimate approve the ordinance for paving North ave. from Druid Hill ave. to Payson st.

McKinley, Minn.—The citizens are reported to have voted to issue \$5,000 bonds for the construction of an electric light plant.

St. Joseph, Mo.—Property owners on Main st. from Dewey ave. to 3d st. will at once select a paving material for use on street.

Springfield, Mo.—West Commercial st. is to be paved with first class material from Boonville to Broad sts. in the near future; also North Jefferson st. between Center and Commercial sts. with asphalt.

Bloomfield, N. J.—Town Council has instructed the Attorney to begin proceedings against the Erie Ry. to remove grade crossings at three streets.

Long Branch, N. J.—Bids will be asked for about 2,000 sq. yds. of asphalt resurfacing.

Newark, N. J.—Wiedenmayer ave. is to be opened 25 ft. wide from Hamburg pl. southerly 1,425 ft.; Carlisle pl. is also to be opened from Ogden to Broad st.—M. R. Sherrerd, Chief Engineer Street and Water Board.

Perth Amboy, N. J.—Council has authorized issue of bonds for constructing permanent and durable pavements.—Wilbur La Roe, City Clerk.

Buffalo, N. Y.—Council has ordered Main st. repaved, 40 ft. wide, with German Rock Co.'s standard asphalt, Spec. "A," from approach to proposed viaduct over Erie R. R. to City Line.—H. J. Baillett, City Clerk.

Buffalo, N. Y.—The Fuhrmann proposition to extend William st. westerly so as to give a direct outlet to Main st. is favored by Councilmen. Commissioner Ward, of the Department of Public Works, said the cost of the improvement if made via Clinton st. would be about \$40,000, while it would cost about \$90,000 to make the proposed detour through Vine Alley to Broadway.

Dunkirk, N. Y.—The Chautauqua County Board of Supervisors at Mayville voted to make Roberts road, 2.62 miles long, a county highway and permanently improve it with brick upon a concrete foundation

from the city line to the junction with the main road. The State Highway Commissioner will furnish plans and specifications so the work can be started early next spring.

New Rochelle, N. Y.—Bids are asked Oct. 14 for paving with macadam Lockwood ave., from Sickles pl. to Madeline ave.—James K. Wilkes, Chief Engineer; Richard Lathers, Jr., Chairman Board of Public Works.

Niagara Falls, N. Y.—Council has authorized the paving of portions of Spruce and Linwood aves., Cedar pl. and 10th st., at a cost of \$81,039; about 22,000 sq. yds.; material not yet selected.—R. A. McClanathan, City Engineer.

Watertown, N. Y.—Resolutions have been passed for constructing curb and gutter on several streets.

Asheville, N. C.—Spring st. is to be paved with macadam; cost \$8,000.

Hillsboro, N. C.—Orange County will probably construct 10 miles of rock roads during next 12 months; approximate cost \$4,000 per mile.—Gilbert C. White, Durham, County Engineer.

Newbern, N. C.—An election will be held Oct. 12 to vote on the issue of \$50,000 street paving bonds.

Wadesboro, N. C.—City contemplates vote on issue of bonds for paving streets and sidewalks; amount \$10,000.—W. K. Boggan, Mayor.

Dayton, O.—Wyoming st. will be paved with brick, asphalt or other material; also DeKalb st., Burns, ave. and an alley, and curbing set.—E. E. Burkhardt, Mayor.

Hamilton, O.—A resolution has been passed providing for the graveling, curbing, guttering and paving the sidewalks with cement on a number of streets.

Toledo, O.—Council has approved issue of bonds for \$60,000 for park and boulevard purposes.

Toledo, O.—Lucas County Commissioners plan to procure equipment for repairing roads, including 10-ton steam road roller, \$3,500, other machinery, wagons, etc.; total, \$5,000 to \$6,000.—Commissioners Davis and Shaw.

Youngstown, O.—Council has passed ordinances to construct sidewalks on four streets and three avenues; also to issue bonds for extension of Rice ave. from Oak to Vine, and to pave Glenover st. between Market and Oakhill.

Ada, Okla.—P. G. Ekman, City Engineer, has completed plans and specifications for paving approximately 40,000 sq. yds. with Oklahoma natural rock, and contract will be let about Oct. 20.

Guthrie, Okla.—A petition was received from a majority of the property owners on East Washington ave., asking that that street be paved from Division to Broad st. with sheet asphalt.

McAlester, Okla.—Council has created paving district No. 6; asphalt paving at a cost of \$205,489 is contemplated.

Stillwater, Okla.—A committee of two was appointed by the Commercial Club to act with Council in investigating the matter of paving; they intend to visit other Oklahoma cities.—Dale Lytton and G. E. Moore compose the Committee.

Northbend, Ore.—Council has approved plans and specifications for the improvement of Virginia ave., at estimated cost of \$5,140.—F. H. Brigham, City Engineer.

Portland, Ore.—Plans are being made to widen East Water st. 80 ft. between East Morrison st. and Hawthorne ave.

Carnegie, Pa.—Ordinances for grading, curbing and paving Center ave., 2d ave., Cabbage st., Boyd st., Pine alley and Diamond alley have been passed by Council.—President Brethotte.

Easton, Pa.—Bids are wanted for paving South 4th st. with wood block on a 5-year guarantee.—John McNeal, City Engineer.

Harrisburg, Pa.—Contracts for rebuilding two additional sections of the national pike in Fayette County will be let soon by State Highway Commissioner Joseph W. Hunter.

Independence, Pa.—The Supervisors of Independence Township will issue bonds to the amount of \$20,000 for a brick road from Avella to Independence.

Lebanon, Pa.—Sidewalks have been ordered on 3d st. and Cumberland st.

Philadelphia, Pa.—Bills providing for the paving and repaving of a number of streets, located principally in the suburban wards, have been reported to Councils with a favorable recommendation by the Committee on Highways.

Pittsburg, Pa.—Allegheny County's Commissioners have issued their first call for bids for the paving of county roads with brick; three of the heaviest traveled roads, 9.92 miles long, in the county are to be improved with the brick paving at this time and others are to follow; bids are also solicited for one macadam, .9 mile, and one concrete road, 1.8 miles long.

Scranton, Pa.—Ordinances are before Councils for the paving of Jackson st., from Bromley ave. to Keyser Valley, and

Luzerne st., from Main to 22d ave.; Lafayette and Price sts. will be widened, graded and paved before winter.

Williamsport, Pa.—An ordinance has been passed authorizing the purchase of an asphalt repair outfit for \$600.

Big Stone Gap, Tenn.—An election will be held Oct. 26 to vote on a bond issue of \$22,000 for streets and sidewalks, \$4,000 for town hall and jail and \$4,000 for sewers.

Dallas, Tex.—Subgrade crossing at Cedar Springs st. and Harty Railroad will involve paving of over 8,000 lin. ft. of street, laying of sewer, water and gas mains, and building of a number of bridges.—Address Municipal Commission.

Denton, Tex.—Citizens favor expenditure of \$300,000 by bond issue in Justice Precinct No. 1, for good roads; Commissioners' Court urge that a citizens' committee co-operate and advise with the Court in the making of contracts, making plans and specifications and other details of the expenditures.

San Antonio, Tex.—The streets of the new suburban addition of this city, which the surveyors are at present laying out, are to be paved and cement sidewalks constructed.

San Antonio, Tex.—Council has decided to order good sidewalks laid by citizens, failing in which city will lay them at expense of property owners.

San Antonio, Tex.—Although the Council has just appropriated \$10,000 for additional machinery for the asphalt plant, which has just been installed at a cost of \$13,500, it is more than likely that the work will be done by contract after all. The Bitulithic Paving Co., of Dallas, offers to do the work at a cost of \$1.75 per sq. yd., using the city's plant, guaranteeing the work, and Council figures that this would be cheaper than the city could do it for.

Salt Lake City, Utah.—Plans are being made by the property owners in the South st. district for paving with asphaltum from 9th st. to the city limits.—L. C. Kelsey, City Engineer.

Alexandria, Va.—Five blocks of upper King st. will be paved at once under the supervision of County Engineer Garrett; brick and granite curbing will be used; cost, \$18,600.

Big Stone Gap, Va.—City will vote Oct. 26 on issue of \$30,000 of bonds as follows: \$22,000 to improve streets and sidewalks, \$4,000 to repair and extend sewer system and \$4,000 to erect Town Hall and jail.

Lexington, Va.—Rockbridge County will probably construct rock roads during next 12 months.—J. H. B. Jones, County Engineer, Fairfield, R. F. D.

Norfolk, Va.—City has voted issue of \$65,000 bonds for paving West Main st. and \$10,000 for paving Worham st. and sidewalks in Fifth and Sixth Wards.—W. T. Brooke, City Engineer.

Norfolk, Va.—The City Engineer has estimated the cost of widening and paving the roadway of Colonial ave. at \$7,320.

The Controllers have recommended to Council an appropriation of \$4,892 for curbing and guttering on Sheldon ave. and Charles st.—W. T. Brooke, City Engineer.

North Yakima, Wash.—County Commissioners have announced that more macadam roads will be laid and less graveling and grading done.

Puyallup, Wash.—A resolution has been passed by Council for paving Meridian st.

Seattle, Wash.—The Park Board has authorized the Engineering Department to lay out the right of way of all proposed boulevards on the West Seattle peninsula.

Tacoma, Wash.—Lawrence st. will be improved by building roadway and laying concrete curb and sidewalk at a cost of \$5,467.—H. J. McGregor, Commissioner Public Works.

Wenatchee, Wash.—Council has decided to grade surface with crushed rock and construct cement sidewalks on both sides of Mission st. at a cost of \$40,000, also re-grade and construct cement walks on Poplar and Okanogan aves., at a cost of about \$40,000.

Charleston, W. Va.—The Kanawha County Court has set Oct. 30 as the date on which the citizens of Charleston, Pocahontas and Union districts will vote on a bond issue of \$180,000—\$135,000 for Charleston, \$30,000 for Union, and \$15,000 for Pocahontas districts—for building two permanent roads, one from Charleston to Lock No. 6, and the other from Charleston to Sissonville; it is the intention to build about 18 miles of road.

Clarksburg, W. Va.—Bids will be opened Nov. 5 for \$27,000 street paving, sewerage and water works improvement bonds.

Baraboo, Wis.—The extension of the macadam road on East st. is being considered.

Racine, Wis.—The Board of Public Works is preparing plans and specifications for paving with brick 11th st., from Washington ave. to Racine st.; also Racine st. from 11th st. to the south city limits, and 5th st. from College ave. to Monument sq.—P. H. Connolly, City Engineer.

BIDS RECEIVED AND CONTRACTS AWARDED

Bessemer, Ala.—A large contract for improvements on Clarendon ave. was let to P. H. O'Brien & Co., who agrees to do the following work: 8083 cu. ft. of excavation, 22c.; 861 cu. yds. of slag, 50c.; 1,861 cu. yds. of chert, 74c.; 70 sq. yds. concrete pavement, \$5.95; 1,792 lin. ft. of curbing and guttering, 70c.; 940 sq. yds. of cement, 80c.

Ensley, Ala.—Street Improvement Committee has recommended that contract for sidewalk and street improvements be awarded to Mularky Contracting Co., Birmingham, at \$49,230; contract covers five miles of street and includes 30,560 yds. of sidewalk, 800 yds. of vit. brick at alley crossings, 28,000 lin. ft. of 5x18-in. granite curb, 13,500 lin. ft. combined curbing and guttering, and 20,000 cu. yds. of excavating.—V. E. Ohi, City Engineer.

Hartselle, Ala.—M. Casey & Co. have contract for 10 miles of pike road to be built east from the corporation line.

Mobile, Ala.—Bids for the wood block paving for the seventh paving venture, including Michigan, Georgia and Montauk aves. and Hallett st., former ones of which were thrown out some weeks ago, were opened by the Board of Public Works Sept. 30. There were seven bids tendered and McPortland & O'Gara were awarded the contract at \$1.82 3-10 per cu. yd., including the paving and concrete. The highest bid offered was that of Coffey & Carter, \$2.17½. The accepted bid is 47-10c. lower than ever before, and according to President Schley, this will be the cheapest paving had in the county. The bids are as follows:— (a) Concrete; (b) paving; (c) estimate. Coffey & Carter (a) 75c., (b) \$1.42½, (c) \$2.17½; R. B. Bird-sall (a) 65c., (b) \$1.31; (c) \$1.96; Milner Sons & Co. (a) 64c.; (b) \$1.27; (c) \$1.91; Bigler Bros. (a) 67 9-10c., (b) \$1.20, (c) \$1.79 9-10; J. W. Gurley & Co. (a) 87½c., (b) \$1, (c) \$1.87½; Jett Brothers (a) 55c., (b) \$1.30, (c) \$1.85; McPortland & O'Gara (a) 60c., (b) \$1.22 3-10, (c) \$1.82 3-10.

Hartford, Conn.—The contracts for State road work, bids for which were received Sept. 27, have been awarded by the State Highway Commissioner as follows: Town of Preston, 12,500 lin. ft. gravel-telford road, including two 12-in. c.-i. pipe culverts and four 20-in., one 18-in. and two 15-in. tile culverts, to Olin T. Benedict, of Pittsfield, Mass., for \$1.73 per lin. ft. for gravel, \$2.33 per lin. ft. for telford, 75c. per lin. ft. for rubble drain, 40c. per lin. ft. for railing, and 75c. per sq. yd. for cobble gutters. Town of Newtown, 27,800 lin. ft. gravel-telford road, including two 18-in., eight 15-in., two 12-in., eleven 24-in. and four 20-in. tile culverts, to the B. N. Beard Co., of Shelton, Conn., for \$1.88 per lin. ft. for gravel, \$2.50 per lin. ft. for telford, 50c. per sq. yd. for cobble gutters, 35c. per lin. ft. for railing, \$1.25 per lin. ft. for rubble drain, \$5 per cu. yd. for walling, and \$840 for superstructure to two bridges.

Waterbury, Conn.—For paving Freight st. and enlarging conduit on same street Field, Barker & Underwood, of Philadelphia, with a bid of \$24,655, was awarded the contract over the Connecticut Hassam Paving Co. This firm's bid was \$25,472.

Jacksonville, Fla.—Contract for the grading of 21st st., from Walnut to Durkee ave., a distance of 1½ miles, was awarded to D. M. Baker, the following bids being submitted: D. M. Baker, grading in cuts 17½c. per yd.; grading in fills, 17½c. per yd. L. F. Drysdale, grading in cuts, 19½c. per yd.; grading in fills, 19½c. per yd. T. D. Griffin Co., grading in cuts, 22c. per yd.; grading in fills, 17c. per yd.

St. Augustine, Fla.—Brick pavement will be laid on Valencia st. between Malaga and Ribera sts., by Mr. John Melcher, at \$2,151.94; the sand required for repairing the asphalt street will be supplied by Capo & Drysdale at 45c. a ton. The bid of Robert Hooke, of Chattanooga, to supply the asphalt repair plant and tools for \$547.60 was also accepted. Canfield Co. will supply the cement for all repair work.

Atlanta, Ga.—The following are the bids received for paving with creosoted wood block Marietta and Forsyth sts., about 10,200 sq. yds.: Byron Souder, Atlanta, \$2.63 per sq. yd.; Georgia Granite Co., Atlanta, \$2.56½; Thornton & Mayne, Atlanta, \$2.499, and U. S. Wood Preserving Co., 165 Broadway, New York, N. Y., \$2.47.—R. M. Clanton, City Engineer.

Brunswick, Ga.—Georgia Engineering Co., Augusta, Ga., have been awarded contract at \$1.45 per sq. yd., for 8,000 sq. yds. of vit. brick pavement.

Cairo, Ill.—Board of Local Improvements received bids as follows for paving (a) Walnut and Holbrook sts., (b) 21st and W. 21st sts., and (c) Elm st.: Cairo Construction Co. (a) \$66,813, (b) \$27,973; R. L. Williams (a) \$57,350 (awarded contract), (c) \$25,715 (awarded contract). (c) \$9,308 (awarded contract); John Cherry, Jr. (a) \$65, 39; Garner Hanes (a) \$69,012, (b)

\$26,514, (c) \$10,870; L. M. Johnson (b) \$26,946, (c) \$10,103; A. S. Fraser (c) \$11,325.

Chicago, Ill.—Barber Asphalt Paving Co. have been awarded contract for the construction of pavement on D st. from 3d to 4th st., and from Columbia to California st. Concrete asphaltum will be used. Alexander N. Todd has been awarded two contracts for \$45,000 worth of street paving. The M. H. McGovern Co., 1,084 Paulina st., has secured the city's contract for the repair of asphalt streets. Bids were opened for the repair of approximately 30,000 sq. yds., with the McGovern Co. as the lowest bidder, 87c. per sq. yd. for asphalt surface. The Barber Asphalt Co. was second, with a price of 90c. Parker-Washington Co. submitted a price of 97c., and Gindele Bros., the highest bidder, a price of \$1.65. The city stipulated in the specifications that binder will be paid for at the rate of \$5 a ton and concrete at \$7 per cu. yd.

Chicago, Ill.—Alex N. Todd has been awarded contract, at \$27,418, for paving with creosoted wood blocks on Madison st. and on Randolph st., and at \$18,502 for similar work on Wabash ave.

Macomb, Ill.—The following bids were opened by Board of Local Improvements for paving 9,891 sq. yds. on W. Jackson st.: P. H. Tiernan, \$21,135, and J. B. McCauley, of Galesburg, \$21,810.

Marshall, Ill.—Bids were opened Sept. 28 by the Board of Local Improvements for vit. brick paving, and the contract has been awarded to Geo. T. Miller, of Lebanon, Ind., at a total of \$23,601 on Brazil block. He bid for 13,648 sq. yds. paving, \$1.47; 7,460 lin. ft. combined curb and gutter (straight), 35c.; 540 lin. ft. combined curb and gutter (circular), 40c.; 330 lin. ft. 10-in., 12-in. and 15-in., 50c.; 66 lin. ft. 24-in. sewer, \$1; 6 manholes, each \$25; 6 catch basins, each \$25, and 18 curb inlets, each \$10.—W. R. Paige, 109 Arcade Bldg., Terre Haute, Ind., Consulting Engineer.

Moline, Ill.—The Board of Local Improvements received bids Sept. 27 for paving 1st ave. and the laying of water mains on Factory ave. The McCarthy Improvement Co., of Davenport, was awarded the contract for the paving, the price being \$50,000, and the Moline Heating & Construction Co. secured the work for the water mains, its bid being \$8,698. There were three bidders for paving, the other two bids being submitted by J. B. McCauley, of Galesburg, at \$51,000, and the Cain Construction Co., of Gary, Ind., \$53,000. The other bidders on the water main improvement were the Plaembeck Construction Co. and C. A. Bergland, of Moline.

Indianapolis, Ind.—The Board of Works has awarded a number of contracts for constructing sidewalks as follows: Park ave. and Highland Drive, to John Arnold, at \$1.03 and \$1.33 per sq. yd.; 29th st., to A. D. Bowen, at \$1.19; Ruckle st., to Lackey Bros., at \$1.05 per sq. yd.; Park ave., to Marion Caldwell, at \$1.31, and Broadway, to Abel Bros., at \$1.23½. The Hoosier Construction Co., American Central Life Bldg., has submitted the lowest bid for paving a portion of 37th st., as follows: Asphalt, \$3.24 per sq. yd., and bitulithic at \$3.16 per sq. yd.

Michigan City, Ind.—The Board of Public Works have let contract for construction of cement sidewalks along the south side of Michigan st., between Cleveland and Porter st., to Swan Magnuson, who bid 9c. a sq. ft.; Vincent Milcarek bid 11c. a sq. ft.

Newport, Ind.—The County Commissioners, Oct. 4, let contracts for Switzer rd., Highland Township, 2 2-3 miles, \$7,100, to Thomas Glynn, of Terre Haute; Dickerson rd., Eugene Township, 2 7-8 miles, \$7,600, to George W. Sykes, city; Thomas rd., Eugene Township, 2 2-3 miles, \$6,700, to Charles Sykes, city.—H. T. Payne, Auditor, Vermillion county.

Vincennes, Ind.—The County Commissioners have awarded to Herbert F. Jones the contract for building gravel road in Busseron Township, petitioned for by James Alexander and others for \$3,000.

Davenport, Ia.—The Board of Supervisors has awarded the contract for macadamizing about two miles of Hickory Grove rd. to John Littig Construction Co. at \$2.05 per sq. yd.

Des Moines, Ia.—The City Council has awarded the contract for paving with brick about 12,700 sq. yds. on Southwest 9th st. to J. C. Likes, 223 Locust st., at \$1.69 per sq. yd. C. P. Herrick, of Des Moines, has secured the contract for about 2,765 sq. yds. of brick paving on W. Grand ave., at \$2.09½ per sq. yd. The Bryant-Ford-McLaughlin Co., of Waterloo, has secured contract for about 3,220 sq. yds. of asphalt paving on 39th st., at \$2 per sq. yd., and for about 2,169 sq. yds. of asphalt paving on Clark st., at \$2.10 per sq. yd.

Coffeyville, Kan.—McGuire & Stanton have secured contract for paving portions of Hickman and Grant sts., for about \$12,000.

Hutchinson, Kan.—Rushmore & Gowdy, of Cherryvale, have been awarded con-

tract for paving 1st and 2d aves. and Washington and Walnut sts., by the City Commissioners. The bid of Rushmore & Gowdy, the lowest bidders, aggregated a total of \$66,978 for the brick paving on concrete base, with an asphalt filler, and \$60,758 for the paving with a Portland cement filler, the cement filler being \$6,222 cheaper than the asphalt. Property owners will decide as to filler. In every case the bidders made lower bids for putting in the cement filler than the asphalt, the difference running from 7c. a sq. yd. in the bid of Hamilton & Swartz to 17c. in the bid of Rushmore & Gowdy. The lowest bid for doing the 12,000 cu. yds. of grading necessary was \$3,480, at 29c., which was bid by two firms, Rushmore & Gowdy, and Halsey, Ware & Rice. The total amount of paving will aggregate 36,683 sq. yds. The following contractors presented bids: Davis & Howard, Hutchinson; Halsey, Ware & Rice, St. Joseph, Mo.; Rushmore & Gowdy, Cherryvale; M. Ford, Omaha, Neb.; Stuckey Construction Co., Bartlesville, Okla.; Reed & Frapp, Clay Center; C. F. Schilling, Joplin, Mo.; Hamilton & Schwartz, Shenandoah, Ia., and the Engineering Construction Co., Webb City, Mo. The bids and City Engineer's estimate are as follows, in detail: For grading—Davis & Howard, 35c.; Halsey, Ware & Rice, 29c.; Rushmore & Gowdy, 29c.; M. Ford, 30c.; Stuckey Co., 30c.; Reed & Frapp, 39c.; C. F. Schilling, 30c.; Hamilton & Schwartz, 30c.; Engineering Construction Co., 30c.; City Engineer's estimate, 37c. Paving, one course brick, on concrete base, asphalt filler—Davis, \$1.97; Halsey, \$1.52; Rushmore, \$1.83; Ford, \$1.84; Stuckey, \$1.84½; Reed, \$1.96; Schilling, \$1.95; Hamilton, \$1.87; Engineering Co., \$1.92; City Engineer's estimate, \$1.90. Paving, one course brick, on concrete base, Portland cement filler—Davis, \$1.85; Halsey, \$1.84; Rushmore, \$1.66; Ford, \$1.72; Stuckey, \$1.73½; Reed, \$1.86; Schilling, \$1.84; Hamilton, \$1.80; Engineering Co., \$1.81; estimate of City Engineer, \$1.80. Paving, one course brick, on concrete base, with coal tar filler—Halsey, \$1.91; Ford, \$1.84; Schilling, \$1.92; Hamilton, \$1.84; Engineering Co., \$1.90; City Engineer's estimate, \$1.85. Paving, two course brick, on No. 2 paving block base, asphalt filler—Ford, \$1.84; Stuckey, \$1.84½; Reed, \$2.51; Schilling, \$2.33; Engineering Co., \$2.40; City Engineer's estimate, \$1.90. Paving, two course brick, on No. 2 block, Portland cement filler—Ford, \$1.76; Stuckey, \$1.73½; Reed, \$2.31; Schilling, \$2.23; Engineering Co., \$2.50; City Engineer's estimate, \$1.80. Paving, two course brick, on No. 2 block, coal tar filler—Ford, \$1.84; Schilling, \$2.30; Engineering Co., \$2.31; City Engineer's estimate, \$1.85.

Lake Providence, La.—City has awarded contract to John Houchin & Co., Jackson, Miss., for the concrete paving of 100,000 sq. ft. of sidewalk at a cost of \$13,000; material purchased and construction begun.—W. C. McRae, Engineer in Charge.

New Orleans, La.—Finance Committee has passed favorably upon the ordinance accepting the bid of Chris Hyland & Co. for the banquetting of Alvar st. from St. Claude to Urquhart, for \$2,542.50; also for the acceptance of the bid of the Barber Asphalt Co. for paving Lowerline st. from St. Charles ave. to Commercial st. with asphalt, for \$9,647.75; accepting the bid of Henry Bond for paving of sidewalks in Audubon st., from St. Charles ave. to Freret st., for \$2,420.

Shreveport, La.—The contract for paving Reynolds st. has been awarded to the Southern Bitulithic Co., of Nashville, Tenn., at \$2.55 per sq. yd., 5-year guarantee.

Grand Rapids, Mich.—The contract for grading and graveling a portion of Hall st. has been awarded to Fred Gilner for \$12,306.

Duluth, Minn.—The Board of Public Works has awarded the contract for the paving of Second alley, between Lake and Fourth aves, W., to Hugh Steele. His bid was \$8,088.

Meridian, Miss.—Bids for the paving for certain resident streets of Meridian at a cost of about \$200,000 have been opened and referred to City Engineer W. G. Wetmore for tabulation. There are 10 bids in all, the contracting firms being as follows: The West Construction Co. of Chattanooga; H. P. Streicher & Co., Memphis; Filbert Construction Co., Philadelphia, Pa.; J. White Gurley Co., Mobile; Southern Paving and Construction Co., Chattanooga; Southern Bitulithic Co., Nashville; Rubush-Dabbs Co., Meridian; Byron Sanders Co., Atlanta; R. S. Blome & Co., Chicago, and the Graves-Matthews Co.

St. Joseph, Mo.—On Sept. 27 the Board of Public Works awarded two paving contracts. Rackliffe & Gibson will pave Highly st., from 18th to 19th st., with Hassam, at \$1.35 per sq. yd. H. N. Rice, of the Phoenix Brick & Construction Co., was awarded a contract to pave 26th st., from

Mitchell ave. to Penn st., with brick on a 4-in. concrete base, at \$1.59 per sq. yd.

Ft. Crook, Neb.—The following bids were opened Sept. 22 at the office of Capt. Jos. F. Gohn, Constructing Quartermaster, U. S. A., for the construction of about 12,300 sq. ft. of cement walks (price given per sq. ft.): Wm. S. Doll, 943 New York Life Bldg., Omaha, 187c.; E. F. Stepp, Bellevue, 22½c.; Beebe Cement & Paving Co., Sherman ave. and Belt Line, Omaha, 13½c.; P. McArdle, 1901 Park ave., Omaha, 18c.; Peter Soderberg, 2034 Castellar st., Omaha, 21c.; Jensen, Ray & Co., 1634 Madison st., South Omaha, 21c.

Audubon, N. J.—E. W. Cobb, Borough Clerk, states that the contract for 34,640 sq. ft. cement sidewalks, bids opened Sept. 30, has been awarded to LeCato Construction Co., of Audubon, N. J., at 13½c. per sq. ft. for cement walk, and 30c. per cu. yd. for excavation.

Bayonne, N. J.—W. C. Devlin was awarded contract for paving with brick 25th st., from Broadway to Newark Bay, their bid of \$22,223 being the lowest. James J. Cogan got the contract for sewer connections on Broadway, his bid being \$602.

Newark, N. J.—The Essex County Park Commission has awarded contract for the completing of Riverbank Park to the J. F. Shanley Co. at \$7,107.75, and the contractor will have 90 days to complete the work. The Commission decided to have the tar macadam roadway at Eagle's Rock constructed by the park employees. Bids for the road work were rejected as being too high. The lowest was 89c. per sq. yd., making a total cost of \$4,810.

Perth Amboy, N. J.—The following bids were received for grading Penn st. from Hall ave. north: Martin Hansen, awarded contract at 27c. per cu. yd.; Liddle & Pfeiffer, 40c.; Graham & McKeon, 29c.

Albany, N. Y.—The following bids were received on Oct. 1 by the State Highway Commission for the reconstruction of State roads in Erie County: Buffalo-Hamburg rd. No. 2-R, length 4,607 miles: Thomas Fitzgerald Co., Fredonia, N. Y., \$93,500; Hagaman, Miller & Hagaman, 688 Clinton ave., Rochester, N. Y., \$94,000; Frank V. E. Bardoll, 400 Morgan Bldg., Buffalo, \$85,647; Whitmore, Rauber & Vicinus, 279 South ave., Rochester, N. Y., \$101,500; Frank V. Brotsch Co., 39 State st., Rochester, N. Y., \$83,900 (awarded contract); Henry P. Burgard Co., 275 Lathrop st., Buffalo, \$95,000; Frederick A. Brotsch, Jr., 12 Triangle Bldg., Rochester, \$82,000; Mosier & Summers, 1,266 Seneca st., Buffalo, \$98,900; Busch & Percival, 523 Brisbane Bldg., Buffalo, N. Y., \$102,526; Frank L. Cohn, 49 Niagara st., Buffalo, N. Y., \$89,300; James E. Martin, 33 Corliss ave., Poughkeepsie, \$99,990; John Miller, 802 Elliott st., Buffalo, N. Y., \$100,000; Louis H. Gypp Construction Co., Buffalo, N. Y., \$92,880; American Pipe & Construction Co., 112 North Broad st., Philadelphia, Pa., \$92,854.

Orchard Park rd. (Sec. 1) No. 27-R, length, 1.155 miles: Frank V. Brotsch Co., 39 State st., Rochester, N. Y., \$19,100 (awarded contract); Frank V. E. Bardoll, Buffalo, N. Y., \$21,898; Hagaman, Miller & Hagaman, Rochester, N. Y., \$22,200; Frank L. Cohn, Buffalo, N. Y., \$22,140; Whitmore, Rauber & Vicinus, Rochester, \$22,100; Henry P. Burgard Co., Buffalo, N. Y., \$22,000; Frederick A. Brotsch, Rochester, N. Y., \$21,800; Mosier & Summers, Buffalo, N. Y., \$21,900; John Miller, Buffalo, N. Y., \$22,640; Busch & Percival, Buffalo, N. Y., \$26,715; Louis H. Gypp Construction Co., Buffalo, N. Y., \$21,666; Frederick J. Munn, Buffalo, N. Y., \$23,907; James E. Martin, Poughkeepsie, N. Y., \$22,490; American Pipe & Construction Co., Philadelphia, Pa., \$22,827; Newport Construction Co., Newport, N. Y., \$24,793.

Orchard Park rd. (Sec. 2) No. 66-R, length, .952 miles: Frank V. E. Bardoll, Buffalo, N. Y., \$16,928; Frank L. Cohn, Buffalo, N. Y., \$18,000; Whitmore, Rauber & Vicinus, Rochester, N. Y., \$17,200; Henry P. Burgard Co., Buffalo, N. Y., \$17,000; Frederick A. Brotsch, Rochester, N. Y., \$16,775 (awarded contract); Hagaman, Miller & Hagaman, Rochester, N. Y., \$17,400; Mosier & Summers, Buffalo, N. Y., \$17,200; Busch & Percival, Buffalo, N. Y., \$21,005; Frederick J. Munn, Buffalo, N. Y., \$18,962; John Miller, Buffalo, N. Y., \$17,600; James E. Martin, Poughkeepsie, N. Y., \$17,449; American Pipe & Construction Co., Philadelphia, \$17,818; Newport Construction Co., Newport, N. Y., \$18,843.

Orchard Park rd. (Sec. 3) No. 67-R, length, 3.41 miles: Frank V. E. Bardoll, Buffalo, N. Y., \$61,146; Whitmore, Rauber & Vicinus, Rochester, N. Y., \$61,300; Frank V. Brotsch Co., Rochester, N. Y., \$55,500 (awarded contract); Henry P. Burgard Co., Buffalo, N. Y., \$65,000; Hagaman, Miller & Hagaman, Rochester, N. Y., \$62,200; Frederick J. Munn, Buffalo, N. Y., \$69,104; Frederick A. Brotsch, Rochester, N. Y., \$60,000; Mosier & Summers, Buffalo, N. Y., \$61,600; Busch & Percival, Buffalo, N. Y., \$73,187; James E. Martin, Poughkeepsie,

N. Y., \$61,344; John Miller, Buffalo, N. Y., \$62,000; Louis H. Gypp Construction Co., Buffalo, N. Y., \$57,880; American Pipe & Construction Co., Philadelphia, Pa., \$62,699. Orchard Park rd. (Sec. 4), No. 68-R, length, 1.17 miles: Frank V. E. Bardoll, Buffalo, N. Y., \$22,485; Frank L. Cohn, Buffalo, N. Y., \$21,800; Whitmore, Rauber & Vicinus, Rochester, \$22,500; Frank V. Brotsch Co., Rochester, N. Y., \$19,400 (awarded contract); American Pipe & Construction Co., Philadelphia, Pa., \$23,014; Henry P. Burgard Co., Buffalo, N. Y., \$21,500; Frederick A. Brotsch, Rochester, N. Y., \$21,500; Mosier & Summers, Buffalo, N. Y., \$22,500; Busch & Percival, Buffalo, N. Y., \$26,794; Huntley & Alberson, Buffalo, N. Y., \$23,725; Hagaman, Miller & Hagaman, Buffalo, N. Y., \$24,000; James E. Martin, Poughkeepsie, N. Y., \$21,990; Louis H. Gypp Construction Co., Buffalo, N. Y., \$20,880; John Miller, Buffalo, N. Y., \$22,000; Frederick J. Munn, Buffalo, N. Y., \$25,000.

Brooklyn, N. Y.—Bids were opened Sept. 22 at the office of Bird S. Coler, President Brooklyn Borough, for regulating and repaving with asphalt on a concrete foundation Chauncey st., from Reid ave. to Saratoga ave., and the contract has been awarded to the Brooklyn Alcatraz Co., 407 Hamilton ave., Brooklyn, as follows: 11,510 sq. yds. asphalt pavement (5-year maintenance), 83c.; 20 sq. yds. old stone pavement, relaid, 40c.; 1,600 cu. yds. concrete for pavement foundation, \$1.60; 5,480 lin. ft. new curb, 90c.; 610 lin. ft. old curb, reset in concrete, 50c.; 27 noiseless covers and heads, complete, for sewer manholes, \$14; total, \$22,536. Totals of other bids: Barber Asphalt Paving Co., 30 Church st., New York City, \$24,493; Uvalde Asphalt Paving Co., 1 Broadway, New York City, \$23,341; and Cranford Co., 190 Montague st., Brooklyn, \$22,871.

Brooklyn, N. Y.—The following bids were received by Bird S. Coler, President Borough of Brooklyn, Sept. 29, for regulating and repaving with asphalt block pavement on a concrete foundation the roadway of Brooklyn ave., from Prospect pl. to Eastern Parkway, together with all work incidental thereto: Hastings Pavement Co., \$18,979; Barber Asphalt Paving Co., 30 Church st., New York, \$18,796. Regulating and repaving with asphalt pavement on a concrete foundation the roadway of Lincoln pl., from Troy to Rochester aves.: Uvalde Asphalt Paving Co., 1 Broadway, New York, \$11,553; Barber Asphalt Paving Co., 30 Church st., New York, \$12,348; Brooklyn Alcatraz Paving Co., \$11,413; Cranford Co., 52 9th st., Brooklyn, \$12,620. Schenk ave., from Jamaica to Atlantic aves.: Uvalde Asphalt Paving Co., 1 Broadway, New York, \$10,951; Cranford Co., 52 9th st., Brooklyn, \$11,202; Barber Asphalt Paving Co., 30 Church st., New York, \$11,360.

Buffalo, N. Y.—The following bids have been received for asphalt street repaving work at the Department of Public Works. Larkin st., from Carroll st. to the Erie Railroad tracks, the German Rock Asphalt & Cement Co., \$2,315; Englewood ave., from Main to Mildred sts., the Barber Asphalt Paving Co., \$16,470; Grant st., from Hampshire st. to Forest ave., the German Rock Asphalt & Cement Co., \$23,340; Royal ave., from Tonawanda to Ontario sts., the German Rock Asphalt & Cement Co., \$9,236.

Islip, N. Y.—The Town Board and the Board of Highway Commissioners met jointly on Sept. 30 for the purpose of opening bids for the construction of concrete sidewalks, curbs and gutters. There were six bidders and the contract was awarded to the Baker Contracting Co., 90 West st., New York, whose figures are 74c. per lin. ft. for sidewalks 5 ft. wide, and 62c. per lin. ft. for curbs and gutters. The money appropriated last spring for this purpose totals \$9,000.

New York, N. Y.—Bids were opened at the office of Allen N. Spooner, Commissioner of Docks, Sept. 29, and the following are the lowest bids received: Class 1, for furnishing material and laying iron slag block and granite pavement on portions of the marginal street between Whitehall and Broad sts., East River, lowest bidder Cunningham & Kearns, 438 E. 91st st., at \$5,600; and Class 2, granite block pavement between Albany and Liberty sts., and between W. 30th and W. 33d sts., North River; and Class 3, laying a granite crosswalk along the southerly line of W. 22d st., North River, Dunbar Construction Co., at \$27,000 for Class 2 and \$25,500 for Class 3.

Rochester, N. Y.—The Board of Contract has let the following contracts: Duval grading and curb, Brayer & Albaugh, \$659.25; Portage st. sewer, grading and walk, John Petrossi Co., \$1,765.50; Brunswick st. pavement, H. N. Cowles, \$2,707; Boss pl. cement walks, Holder & Seitz, \$210.50; Kappel pl. cement walks, W. A. Margrander, \$181.30; Welcher st. walks, Holder & Seitz, \$262; Judson st. walks, Frank Crouch, \$74; Congress ave. walks, J. J. Regan, \$331.50; Ariel pl. grading and walks, W. A. Margrander, \$324.75; North

Water st. race repairs, Seneca Engineering Co., Montour Falls, \$1,400.

Schenectady, N. Y.—The Board of Contract & Supply has awarded the contract for the laying of 2,300 ft. of concrete walk in Lenox rd. to the Chaffee Contracting Co. at 9c. per sq. ft. There were six other bids received.

Cincinnati, O.—The County Commissioners have awarded five contracts for county improvements. The contract for the improvement of the Snyder rd. has been let to Meredith & Deckerbach on a bid of \$12,623. The estimate on this work was \$16,009. There were four other bidders. The contract for the improvement of the Dry Ridge rd. to H. Westerman on a bid of \$6,805. The estimate on this work was \$8,645. Five other contractors bid on the work. The contract for bridges and culverts on the Forfeit Run rd. was awarded to Thomas & Zecke on a bid of \$6,513. The estimate was \$8,628. There were seven other bidders. The contract for the improvement of the Riddle rd. was awarded to John Ryan, who bid \$1,484. Mr. Ryan also secured the contract for a concrete box culvert on the Taylor Creek rd. on a bid of \$352.

Cleveland, O.—County Commissioners awarded the contracts for the paving of two roads. The improvement of the Irish rd., from Olmsted Falls to Berea, was let to W. H. Otter, for \$60,000, the pavement to be of brick, with stone curbing. Baldwin Bros. will pave the East Lake rd. with brick and a concrete curbing at \$125,000.

Conneaut, O.—North Clifford has been awarded contract for building new Saybrook rd. along lake front outside Ashtabula, at \$11,278.70, road 2,300 ft., to have a tar coating, but not to be oiled. Kunkle Fitzgerald bid \$13,330.36, and S. P. De Grandt, \$17,006.67.

Garrettsville, O.—Morgan & Williams, Ravenna, O., have been awarded contract for paving High and Freedom sts. with metropolitan brick.

Martin's Ferry, O.—The Board of Service opened bids for the proposed paving on 2d st., there being three bids for the work, C. C. Cochran, of Bridgeport; Dixon & Pickett and George B. Clifford, of this city. Cochran was the lowest bidder. For the brick there were three bids, Suburban, 60c.; Toronto, 65c.; and the Mack Co., 66c.

Minerva, O.—M. J. McGinty has been awarded contract, at \$8,805, for paving the half mile of road between the Fairmount Children's Home and the present paved road.

Pomeroy, O.—Contract has been let to J. B. Lindsay, of Middleport, O., at \$3,420, for constructing State Aid road in Meigs county, highway C, using sandstone curb. The contract for highway B has been let to George Bauer, Jr., of Pomeroy, at \$3,996, using sandstone curb.

Ravenna, O.—Norman & Son, Coshocton, O., have been awarded contract, at \$31,165, for paving the Kent-Brimfield road for Portage county. Brick on a broken stone or gravel foundation will be used.

Sandusky, O.—Plans and estimates for paving Franklin st. with brick or sheet asphalt, in all about 12,000 sq. yds., are being prepared.—C. M. King, City Engineer.

Tiffin, O.—Five bids for the improvement of Hall st. from Sandusky to Wall st. by paving with brick were opened by the Board of Public Service as follows: Geo. Stewart, Morcher & Hohenstein, John E. King, L. Schauder, the Universal Construction Co., cost \$9,613.

Toledo, O.—The Board of Public Service has awarded the contract for paving with brick a portion of Delance st. to Henry Sheehan, at \$5,601.

Toledo, O.—The Asphalt Block Paving Co., of Toledo, landed another good sized city job October 4, when the Service Board gave it contract for paving Parkwood ave., Islington to Central; the paving will be 1,943 ft. long and 26 ft. wide and the price is \$14,703.98; the contract provides for steel protected curb, with asphalt blocks; Henry Strecher bid \$14,636.96 for sheet asphalt. Russell & Jennison bid \$18,786 for creosoted wood block and Garrigan Bros. bid \$13,381.50 for vitrified block.

The contract for paving Emerald ave., Broadway to the Clover Leaf tracks, was let to Peters & Son for vitrified block on concrete, at \$18,000.90.

Wausau, O.—The Asphalt Block Paving Co., of Toledo, has been awarded contract for paving 6,000 sq. yds. of street.

Carnegie, Pa.—The contract for paving Center ave. with brick was awarded to Wm. Jones, and 2d ave. to Prosser Construction Co.; contracts were held up for paving of Cabbage st., Boyd st., Pine alley and Diamond alley. There were five bids received. Samuel Gamble, Prosser Construction Co., and Wm. Jones, of Carnegie; M. O. Herron, of Pittsburgh, and Geo. B. Clifford, of Martin's Ferry, O. All bids were on four kinds of brick, and were very close. All work must be completed

within 90 days. Bids for erecting stone wall along Fitzgibbon property on Anthony st., were received from three contractors, and E. P. Halletts being the lowest, were awarded the contract.

Curwensville, Pa.—Reed & Patton, of Curwensville, have been awarded contracts for building sections of State roads at Curwensville and in Pike Township.

Scranton, Pa.—The following contracts have been let for paving North Main st. and for constructing sewers on Wood and Market sts.: McConville & Fitzpatrick, paving North Main st. from Mill to Union sts., Pittsburg-Buffalo brick, \$1.96 per yd.; total, \$31,044; Edward Healey, Market st. sewer, \$2,163; James Munley, Wood st. sewer, \$1,690. The bids for paving were as follows: B. C. Coons, Mack block brick, \$36,221; Edward Healey, Metropolitan block brick, \$37,221; Mack block, \$33,895; Pittsburg-Buffalo brick, \$33,737; Scranton block, \$33,579; McConville & Fitzpatrick, Pittsburg-Buffalo brick, \$31,444.

Somerset, Pa.—The Borough Counsel has awarded a contract for paving nearly four squares of Union and West st. to Daniel E. Keller of Somerset; estimated cost, \$4,000; West Union st. will be paved at 80c., East Union st. at 95c., and West st. at \$1 per sq. yd.; the streets to be paved aggregate in length about 1,500 ft.

Uniontown, Pa.—Contractor W. C. McCormick was awarded contract for paving of Oakland ave. and the Uniontown Construction Co. for Grant st.

Ogden, Utah.—Council has awarded contract for constructing sidewalks in Districts N 100 and 102 to Wheelwright Construction Co., for \$9,954.

York, Pa.—The Filbert Paving Co., Philadelphia, has been awarded contract to pave Mason alley, between George and Beaver sts., with California and Bermudian sheet asphalt at \$1.78 per sq. yd. The bid was the only one presented.

Providence, R. I.—Thos. J. Quinn, of Ashton, has been awarded contract for constructing tar-top road on Greenville State road, 47,520 ft. long, at \$2.42 per cu. yd.; total, \$29,800; Bryan F. Mahan, New London, Conn., bid \$29,540, but it was rejected, as informal. Other bidders were: John Bristow, \$2.81 a yd., \$34,619.20; Bryan F. Mahan, \$2.40 a yd., \$29,540; Lane Construction Corp., \$2.43 a yd., \$29,930; Pocasset Ice Co., \$2.67 a yd., \$32,950; Arthur W. Steere, \$2.50 a yd., \$30,800; L. H. Callan, \$2.62 a yd., \$32,175; Joseph McCormick, \$2.70 a yd., \$33,249; Amos D. Bridge Sons Co., \$2.62 a yd., \$33,278.40.

San Antonio, Tex.—The Bilulithic Paving Co., of Dallas, has been awarded contract for paving at \$1.75 per sq. yd., using new city plan.

Salt Lake City, Utah.—Third West st., from North Temple to Third South st., will be paved with asphalt, and the Board of Public Works has awarded contract to P. J. Moran for \$54,248.50.

Ballard, Wash.—The Barber Asphalt Paving Co., Mutual Life Bldg., Seattle, has submitted to the Board Public Works a bid at \$1.75 per sq. yd. for paving Market st. and 24th ave. with asphalt; estimated cost of improvement \$100,000.

Seattle, Wash.—Bids were opened Sept. 21 at the office of the Board of Public Works for paving 23d ave. and other streets and contract awarded to J. P. McHugh, city, at the following bid: Fixed estimate, \$4,700; sub-grading, 22,500 cu. yds., 30c.; curved granite curb, 677 lin. ft., \$1.75; straight granite curb, 40 lin. ft., \$1.60; armored concrete curb, 1,705 ft., 65c.; straight concrete curb, 32,938 ft., 31½c.; straight armored concrete curb, 1,622 ft., 65c.; paving, asphalt, 51,335 sq. yds., \$1.50; paving, sandstone, 3,016 sq. yds., \$3.50; alley crossings, concrete, 61 sq. yds., \$1.20; concrete walks, 2,400 sq. yds., \$1.10; concrete repairing, 50 sq. qds., \$1.25; wood stops, 660 lin. ft., 40c.; catch basins, \$55 and \$70 each; catch basins moved and rebuilt, \$25 and \$20; six inlets, each, \$10; 110 Adj. C. B. & M. H. covers, \$2; 6-in. side sewer connections, 7,300 ft., 70c.; 3-in. sewer pipe, 900 ft., 20c.; concrete block walk, 300 sq. yds., \$5; concrete walls, 130 cu. yds., \$7; concrete stairs, 830 lin. ft., \$1.25; concrete stair buttresses, 140 lin. ft., \$7; clear and grub, lump sum, \$2,250; 25 M. ft. new lumber, \$17.50; 25 track inlets, each, \$12; special castings, 2,400 lbs., 7c., etc., total \$133,293. Totals of others bids: F. McLellan, Burke Bldg., \$141,280; Barber Asphalt Paving Co., White Bldg., \$156,373; A. R. Gibson, Seattle, \$148,852, and Independent Asphalt Paving Co., Pioneer Bldg., \$136,260.

Tacoma, Wash.—Bids were opened by Chief Clerk D. B. Sheller of the office of the Commissioner of Public Works, for grading South 40th st. and North 33d and Tyler sts., and Wright & Sweeney were the lowest bidders on the South 40th st. job, their bid being \$8,333; other bids for this work was received from P. E. McHugh and the Coast Contracting Co. McHugh bid \$8,360 and the Coast company bid \$8,650. The Puget Sound Land & De-

velopment Co. submitted the lowest bid for the North End grading job. This bid was \$7,470. Other bids were received as follows: P. E. McHugh, \$7,970; C. H. Bass & Co., \$7,813; Coast Contracting Co., \$7,765; Hassmussen & Sorensen, \$8,345, and Wright & Sweeney, \$7,938.

Walla Walla, Wash.—The Barber Asphalt Paving Co., Mutual Life Bldg., Seattle Wash., has secured contract for paving here at about \$45,000.

Beckley, W. Va.—Bids have been received by Council for street improvement. Wingate & McGhee, of Roanoke, Va., were found to be the lowest bidders on all the work taken as a whole, their bid for the entire job, figuring on a limestone basis for the macadam streets, was \$71,370. Figuring on a concrete macadam, using native stone, their bid for the entire job was \$69,400. The Cantrel Construction Co. made a bid of \$88,517 for limestone and \$107,820 for concrete. R. M. Bibb & Co. bid on the limestone basis for macadam only, and their bid amounted to \$98,480. Wolfe & Ewing bid \$90,056 for the limestone macadam and \$73,814 for the concrete macadam.

Parkersburg, W. Va.—C. S. Skidmore has been awarded a contract, at following bids, for paving portions of several streets: 19th st., \$4,101; 10th st., \$1,696; Mary st., \$2,081; Murdoch ave., \$15,098.

Milwaukee, Wis.—Badger Construction Co., Milwaukee, has been awarded contract, at \$1.94 per sq. yd., for paving Sycamore st. between 4th and 5th sts. with brick; Hase & Wicker, at \$1.86 per sq. yd., for paving 5th st. between State and Villet sts., with brick.

Racine, Wis.—N. F. Reichert, 107 4th ave., city, has been awarded contract, at \$1.92 per sq. yd., for paving 5th st. from Monument sq. to College ave., with brick on concrete foundation with asphalt filler.

London, Ont., Can.—Barber Asphalt Co. has been awarded contract, at \$2,043, for paving on Dundas st., contract price being about \$2.45 per sq. yd.

SEWERAGE

Montgomery, Ala.—Plans are being made for the construction of a sewer for the purpose of draining Cypress Pond. Culvert is to be made of concrete with brick flooring.

Tuscaloosa, Ala.—City will vote Oct. 25 on issuing \$25,000 bonds for constructing additional sanitary sewers.—W. M. Faulk, Mayor; D. B. Robertson, City Clerk.

Monterey, Cal.—J. Otis Burrage, 3400 Washington st., San Francisco, has been retained as Consulting Engineer for the construction of storm sewers.

Pasadena, Cal.—Council has approved diagram of Sunset ave. sewer district.

Sacramento, Cal.—A resolution has been passed by the Board of Trustees for constructing an 8-in. sewer.

San Bernardino, Cal.—City will lay 8-in. vit. pipe sewers in two streets.—Harry Allison, City Clerk.

San Francisco, Cal.—Plans for the North Point sewer have been approved and a resolution passed recommending that the Supervisors set apart \$130,000 for the work.—M. Manson, City Engineer.

South Pasadena, Cal.—Olmstead & Gillelen, of Los Angeles, will submit plans by Nov. 1 for the proposed sewer system, and election will be held to vote on issuing bonds.

Denver, Colo.—Ordinance has been passed creating and establishing the west and south side sanitary sewer district, and its several sub-districts, Nos. 1, 3, 5 and 9 to 20; total estimated cost \$766,192; Board has adopted plans for the construction of sewers in the Arlington Park storm sewer district; probable cost \$24,000.—J. B. Hunter, City Engineer.

Pueblo, Colo.—Council has adopted a resolution for the construction of sewers in Thatcher and Stone subdivision.

Bridgeport, Conn.—A 4,700-ft. sewer in Fairfield ave. from Ellsworth st. to Ash Creek is to be constructed; total cost \$24,596.

Westport, Conn.—Citizens in Fire District are considering construction of sewerage system in all parts of the town.

Madison, Fla.—Florida Normal Institute has surveys made for sewer system to cost \$25,000.

Quincy, Fla.—City has received funds from recent sale of \$80,000 bonds for new sewerage system, extension of water and electric lights and new school building, and work will be started as soon as possible.

Macon, Ga.—City will vote Dec. 8 on \$100,000 bond issue for sewers and \$100,000 for paving.

Elgin, Ill.—City Engineer C. E. Plum is making plans for a sewer in the Seventh Ward to cost about \$80,000.

Galva, Ill.—At an election it was decided to build a sewage disposal plant for \$4,500.

Churubusco, Ind.—The \$2,500 sewer on Whitley st. will be built, as the injunction obtained against the town preventing its

construction failed in the Circuit Court.

Fort Wayne, Ind.—Council has appropriated \$3,500 for sewer repairs.

Sioux City, Ia.—A conduit will be built in Center st. to carry the waters of Perry Creek to the river.

Pittsfield, Mass.—An appropriation of \$1,000 has been made for a surface drain on Melville st. and \$1,000 for sewer and water connections.

Dowagiac, Mich.—Board of Public Works is taking steps toward the laying out of a complete sewer system for city.

Frankfort, Mich.—The Village Council is considering building a public sewer from the corner of Leelanau and 4th sts. to the bay.

Alexandria, Minn.—City will soon construct sewer in Main st.—Address Constant Larson.

Galena, Mo.—Council has authorized \$5,000 sewer bond issue.

Havelock, Neb.—O. W. Barnes, City Engineer, is making surveys preparatory to preparing estimates for a sewer system; estimated cost of installing sewers and a water main is \$40,000.

Nebraska City, Neb.—City is planning upon putting in sewers for Sanitary Sewer District No. 3; cost \$10,612.

Chatham, N. J.—A resolution passed Council for issuing \$35,000 bonds for erecting a sewage plant; the project was voted on Sept. 22 last.

Plainfield, N. J.—City will issue \$43,000 sewer bonds to cover the city's cost of installing the southside sanitary sewer.

Roselle Park, N. J.—Borough Council is considering extension of sewers in the Aldene and Lorraine Sections; probable cost \$79,000.

Roosevelt, N. J.—Council has decided to proceed with sewer work independently of question of disposal plant.

Trenton, N. J.—Engineer Henry M. Herbert, of the State Board of Health, has approved the modified plans for the proposed Liberty st. sewer.

Buffalo, N. Y.—Francis G. Ward, Commissioner Public Works, is preparing plans and specifications for the construction of a sewer to drain the 9th Ward.

Long Island, L. I., N. Y.—Residents of the Rockaways are urging construction of trunk sewer four or five miles long on the Boulevard from Edgemere to Belle Harbor; cost \$400,000 or \$500,000.

Sharon Springs, N. Y.—It is proposed to construct a sewage disposal plant this fall.—Vrooman & Perry, Gloversville, Engineers.

Syracuse, N. Y.—Bids will be received Oct. 24 for the West st. intercepting sewer.

Cleveland, O.—Bids will be received by the Board of Public Service until Oct. 14, noon, for furnishing all labor and materials necessary for covering the main intercepting sewer outlet basin.—E. H. McIntosh, Secretary.

Hamilton, O.—An ordinance has been passed for constructing a sewer on G st.

Youngstown, O.—Sewer is to be built on Shelby st. and Himrod ave.—M. F. Hyland, City Clerk.

Youngstown, O.—Council has ordered sewers constructed in Caledonian, Ayers, Byrne, Hawn and Car sts.

Youngstown, O.—An ordinance has passed Council for a system of sewerage for the northwest part of the city.

Ardmore, Okla.—City Engineer and Commissioner Dawson are investigating as to best septic tanks and filtration plant to be installed, as funds for sewer and water improvements are now available.

Chickasha, Okla.—City has voted \$190,000 bonds for sewer and water extensions; contract will be let in a few days.

Westville, Okla.—City proposes to vote on issuance of \$62,500 sewer and water bonds.

Altoona, Pa.—Mayor S. M. Hoyer has received a letter from Dr. Samuel G. Dixon, State Commissioner of Health, which will result in the construction of a sewage disposal plant east of the city; loan may be voted on in February. Council has voted \$1,000 with which the City Engineer is authorized to make preliminary inquiry into the general question of sewage disposal. In February an election will be held to pass an issue of bonds for the disposal system.

Butler, Pa.—Capt. J. M. Clark, special representative of the State Sanitary Board, investigating the pollution of Connoque-nessing Creek, has delivered to Burgess George W. Amy the ultimatum of the State Health Department that a sewage disposal plant must be provided for by the Butler Council at once. Plans for the plant are now held up by the court injunction, and an appeal has been taken to the Superior Court.

Butler, Pa.—Ordinance has been passed for the construction of a sanitary sewer along Bluff st. from West Clay st. to West Penn st.—George W. Amy, Burgess.

Canonsburg, Pa.—Borough may unite

with authorities of State Reform School at Morganza in constructing sewage disposal plant, who have bought property and have an appropriation for building plant.

Easton, Pa.—City Engineer will readvertise for laying iron pipe sewer in South 4th st., as Pascoe Construction Co. declined to carry out contract on account of advance in price of iron pipe; street will also be paved with wood block.

Easton, Pa.—The city has made an agreement with the State Board of Health to install a sewage disposal plant.—John McNeal, City Engineer.

Franklin, Pa.—Engineer Snow has been directed to prepare plans for a sewage purification plant, to be ready by Jan. 10, under instructions of State Board of Health, and will require assistance; plans are also ordered for new sewer in McCormick st., for surface sewer in 3d Ward and an alley.—Address Mayor Emery.

Harrisburg, Pa.—City will probably engage expert to go over plans, etc., of City Engineer Cowden for rearranging sewer system of city.

Miners Falls, Pa.—Town Council has passed ordinance providing for construction of sewers, 300 to 2,000 ft. long, in over 30 streets; also storm sewer.—Martin I. Barrett, Burgess; Thomas H. Finn, Secretary of Council.

Petersburg, Pa.—City Engineer has been requested to estimate the cost of sewerage Blandford through its main streets.

Pittsburg, Pa.—The Pennsylvania State Reform School has purchased land for a sewage disposal plant.

Saint Clair, Pa.—Bond issues totaling \$165,000 have been approved by the boroughs of Saint Clair and Mount Oliver for modern sewer systems, and within a few weeks these contracts will have been let and the work started; Mount Oliver authorized the expenditure of \$75,000 for sewers and Saint Clair \$90,000.

South Bethlehem, Pa.—City will expend \$2,000 for sewer traps; \$2,700 on storm and house sewers in New st.; \$1,000 for sewer in 7th st.; \$3,050 for storm sewer in 4th st., and \$2,500 and \$1,000 in sections of 5th st., and \$4,980 for house sewer extensions.—R. E. Neumeyer, City Engineer.

Williamsport, Pa.—The Sanitation Committee has recommended an appropriation of \$200 for plans for a sewage disposal plant.

Sumter, S. C.—An issue of \$50,000 sewerage bonds has been sold.

Belton, Tex.—The Commercial Club is agitating the construction of a sewerage system.

Beaumont, Tex.—City voted issuance of \$50,000 of bonds for extension and improvement of sewer system.—C. L. Scherer, City Engineer.

Provo, Utah.—Council will soon let contract for the construction of about 61,548 lin. ft. of sewers in the eastern part of city.

Big Stone Gap, Va.—City will vote Oct. 26 on issuance of \$4,000 of bonds to extend and repair sewer system.

Walla Walla, Wash.—An ordinance has been passed for a sewer in Isaacs ave.

Clarksburg, W. Va.—Bids will be opened Nov. 5 for \$270,000 sewerage, street paving and water works improvement bonds.

BIDS RECEIVED AND CONTRACTS AWARDED

Porterville, Cal.—Bids were opened by City Council on Sept. 20 for sewer work, and contracts have been awarded as follows: To Peterson & Seller, of Fresno, for all work at sewer farm and all piping outside of city, for \$7,000; to W. H. P. Steitz & Co., of Fresno, all sewer work within city limits, for \$7,323, and to the Johnson-Shea Co., Riverside, to furnish pipe, \$4,524.

Alton, Ill.—John Strubel has been awarded contract, at following bid, for constructing sewer in Liberty st. and Linden ave.: 15-in. sewer, 85c. per ft.; 12-in. sewer, 64c. per ft.; 6-in. sewer, 28c. per ft.; manholes, \$30 each; catch basins, \$30 each.

Rockford, Ill.—Schuyler Vandewalker, Belvidere, Ill., has been awarded contract for constructing two sewer extensions for this city.

Waukegan, Ill.—Lanyon & Clifford have been awarded contract for constructing sewer in Sand, Dugan and Madison sts.

Newton, Kan.—Hamilton Bros. Construction Co., 4233 Wabash ave., Chicago, Ill., have been awarded contract at \$34,973 for constructing septic tank, main sewer and two sewer systems. Bids were opened Sept. 30.

Louisville, Ky.—Bids were opened Sept. 24 by the Commissioners of Sewerage for the construction of the Northwestern Sewer, in four sections, as follows:

Contract 53, Sec. B.—Lowest bidder, Jas. Duff Construction Co., Cleveland, O., as follows: 1,420 lin. ft. earth excavation, \$24.75; 2,244 lin. ft. earth excavation, \$11.50; 1,000 cu. yds. rock excavation, \$4; 5,770 cu. yds. class A concrete, \$8.35; 150 sq. yds. vit.

brick paving, \$2; 1,056,600 lbs. plain steel bars, 3c.; 990,000 lbs. deformed steel bars, 3c.; 20 cu. yds. excavation below masonry, \$4; 20 cu. yds. gravel refill, \$2.50; vit. pipe (list price \$458.50), 50% off, \$229.25; 1,000 lin. ft. 8-in. underdrain, 40c.; cleaning up (lump sum), \$550; total, \$144,558. Totals of other bids: C. F. Fitch & Co., Louisville, \$154,027; T. J. O'Connell, Louisville, \$157,702; Blackstaff Eng. Co., Philadelphia, \$165,080; T. B. Jones & Co., St. Louis, Mo., \$183,633; D. W. Curtin, Lynchburg, Va., \$203,133.

Contract 54, Sec. B 2.—Lowest bidder, C. F. Fitch & Co., Louisville, as follows: 2,723 lin. ft. earth excavation, \$13.85; 10 cu. yds. rock excavation, \$3.50; 3,550 cu. yds. class A concrete, \$8.30; 45 sq. yds. vit. brick paving, \$1.85; 397,600 lbs. plain steel bars, 3c.; 372,800 lbs. deformed steel bars, 3c.; 50 cu. yds. excavation below masonry, \$2; 50 cu. yds. gravel refill, \$2; vit. pipe (list price \$784.80), 60% off, \$250.32; 800 lin. ft. 8-in. underdrain, 40c.; cleaning up (lump sum), \$750; total, \$80,065. Totals of other bids: Jas. Duff Construction Co., Cleveland, O., \$81,111; T. J. O'Connell, Louisville, \$82,652; Blackstaff Engineering Co., Philadelphia, Pa., \$85,658; T. B. Jones & Co., St. Louis, Mo., \$91,068; D. W. Curtin, Lynchburg, Va., \$107,486; American Engineering & Contracting Co., Chicago, Ill., \$110,750.

Contract 55, Sec. C.—Lowest bidder, J. Duff Construction Co., Cleveland, O.: 1,727 lin. ft. earth excavation, \$8; 3,118 lin. ft. earth excavation, \$6.75; 3,630 cu. yds. class A concrete, \$9.70; 60 sq. yds. vit. brick paving, \$2; 274,500 lbs. plain steel bars, 3c.; 257,300 lbs. deformed steel bars, 3c.; 100 cu. yds. excavation below masonry, \$0c.; 100 cu. yds. gravel refill, \$2.25; vit. pipe (list price \$1,174.60), 50% off, \$587.30; 1,500 lin. ft. 8-in. underdrain, 40c.; cleaning up (lump sum), \$100; total, \$79,505. Totals of other bids: J. C. Milner, Sons & Co., Louisville, \$82,303; T. J. O'Connell, Louisville, \$88,397; Jas. Ferry & Son, Crafton, Pa., \$94,085; Blackstaff Engineering Co., Philadelphia, Pa., \$94,313; Louisville Contracting Co., Louisville, \$94,532; American Engineering & Contracting Co., Chicago, Ill., \$99,093; E. G. Nave Bros. Co., Portsmouth, O., \$112,933.

Contract 48, Sec. D.—Lowest bidder, E. A. Barker & Son of Louisville, as follows: 3,599 lin. ft. earth excavation, \$6.75; 70 cu. yds. earth excavation for fire cistern, \$1; 1,900 cu. yds. class A concrete, \$9.25; 18 cu. yds. class B concrete, \$12; 220,000 lbs. plain steel bars, 3.5c.; 216,000 lbs. deformed steel bars, 3.5c.; 20 cu. yds. excavation below masonry, \$2; 20 cu. yds. gravel refill, \$2; vit. pipe (list price \$1,544), 65% off, \$540.40; 1,000 lin. ft. 8-in. underdrain, 35c.; cleaning up (lump sum), \$800; total, \$51,485. Totals of other bids: B. C. Milner, Sons & Co., Louisville, \$52,228; Louisville Construction Co., Louisville, \$54,155; Jas. Ferry & Sons, Crafton, Pa., \$54,997; American Engineering & Contracting Co., Chicago, Ill., \$58,789; T. J. O'Connell, Louisville, \$59,804; Jas. Duff Construction Co., Cleveland, O., \$62,777; E. G. Nave Bros. Co., Portsmouth, O., \$63,728.

Boston, Mass.—Superintendent of Streets Emerson Oct. 5 awarded to the West Roxbury Trap Rock Co. a contract for building a new sewer in Hyde Park ave., between Hadwin way and the Hyde Park line, West Roxbury, for \$13,227.11; other bidders were Antony Cefalo, \$14,148; Peter W. Hill, \$17,953.10; Coughlan & Shells, \$18,791.70, and D. E. Lynch, \$19,401.93. Peter W. Hill, lowest of six bidders, has contract to build a concrete sewer in Porter st., East Boston, for \$14,000.

Grand Rapids, Mich.—The contract for improving Hall st., between Grandville and Godfrey aves., has been let by the Board of Works to Fred Gilner, at \$12,296. It is expected the preliminary work can be com-

pleted this fall. The contract for the construction of a sewer in Walker ave. and Tamarack st. has been let to David Crowley, of Saginaw, Mich., for \$2,197.48.

Grand Rapids, Minn.—E. R. Browne & Co. have been awarded contract for constructing sewer in 3d st.

Kingston, N. Y.—Bids were received as follows on Sept. 28 by the Board of Water Supply, New York, for the construction of an intercepting sewer here: King, Rice & Ganey, 280 Broadway, New York, \$146,631. W. J. Gawn, \$163,858; Fred E. Ley & Co., Inc., \$209,862; Haggerty Contracting Co., \$256,236; Foy, Root & Co., \$192,134.

Syracuse, N. Y.—Bids for 17 sidewalk contracts and for a sewer in Stolp ave. were received Oct. 4 by the Board of Contract and Supply; the bids for the sewer in Stolp ave., from Arthur st. to Roberts ave., are as follows: Mary E. Gaffey, \$1,477; Albert Gaffey, \$1,735; C. T. Hookway, \$1,571.50; Samuel Bonn, \$1,569; Alexander Barr, \$1,462; James J. Swift, \$1,652.70; Philip Thomas, \$1,619.50.

Fargo, N. D.—L. W. Schrueth, city, has received contract for the trunk sewer on 9th st., which extends from one side of the city to the other, a mile long, with the pipe 18 and 12 in. Mr. Schrueth's bid was \$1.55, \$1.07, manholes \$58 on one street; \$51 on another; catch basin \$58; the combination manholes and basin \$130. G. W. Haggart's bid was \$1.62, \$1.15. Manholes \$57 and \$59, and combination manholes and basin \$140. Other bid was as follows: \$1.65, \$1.20 for manholes, \$61 on one street, \$60 on another and for combination manhole and flush \$135.

Napoleon, O.—Hennessey & Bro. have been awarded contract for constructing North Perry st. sewer.

Capitol Hill, Okla.—W. F. Powers, Guthrie, Okla., has been awarded contract, at \$1,667, for constructing sewer in Sewer District No. 52.

Sapulpa, Okla.—Contract for constructing pipe sewer, bids opened Sept. 27, has been awarded to T. W. Roberts, of Sapulpa, Okla., or Independence, Mo., for \$17,800.—E. D. Kirkpatrick, City Engineer.

Hanover, Pa.—George N. Gitt and Thos. M. Wolf have been awarded contract, at following bids, for constructing sewer for this town: 1,435 ft. of reinforced concrete sewer at \$3.90 per lin. ft.; two sewer inlets at \$25 each; \$5 per cu. yd. for extra concrete work, and 30c. per cu. yd. for extra excavation; total of bid is \$5,746.

Providence, R. I.—Contract for construction of sewers in Somerset, Gay and Darlings sts. has been awarded to Chas. Crankshaw for \$4,469.

Knoxville, Tenn.—The M. F. Rourke Co. has been awarded contract for sewer district No. 83 at 42c. per ft.; total \$984.40; and Long & Price for sewer district No. 4 at 30c. per ft., total \$977.61.

Salt Lake City, Utah.—The Board Public Works has let contract for concrete conduits at the intersection of North Temple st. with West Temple, First West and Second West sts., to McKay & Reed for \$6,747.50, as against \$7,200.01 for Zerbe & Walker, the only other bid; this will be a part of the City Creek conduit scheme of the city to carry City Creek water from about 6th ave. in the canyon to the Jordan River through the conduit.

Ritzville, Wash.—Contract for the construction of a sewer on F st. and alleys in improvement district No. 3 has been awarded to Contractor Meagher, of Spokane, for \$4,417.

Spokane, Wash.—Board of Public Works has awarded following sewer contracts: Sewer in alley between Montgomery ave. and Ermina and Illinois aves., Long & Smith, \$6,490; Broad, \$7,865; Foster & Hindie, \$7,200. Sewer in alley between Ermina ave. and Baldwin and Illinois aves.,

Brooklyn, N. Y.—The following are the bids opened at the office of Bird S. Coler, President Brooklyn Borough, for furnishing material and constructing sewer in Neptune ave., W. 33d st., to the pump well at caisson No. 2, near W. 12th st., together with an intermediate pumping station and appurtenances at the intersection of Neptune ave. and W. 29th st.: (a) D. Bonacci, (b) Litchfield Construction Co., (c) Newman & Carey, (d) Thos. P. Murphy, (e) C. A. Dady, (f) Donegan & Redmond Co., (g) Jas. Kelly. (Bidders all of Brooklyn.)

	a	b	c	d	e	f	g
1 pump'g st'n (lump sum)	\$7,000.00	\$10,303.00	\$1,000.00	\$9,000.00	\$12,000.00	\$8,000.00	\$9,300.00
2,670 lin. ft. 36" pipe sewer	19.15	12.13	14.10	18.75	14.00	19.00	16.10
1,495 lin. ft. 30" pipe sewer	17.20	10.21	11.50	16.00	12.00	17.00	13.95
300 lin. ft. 22" pipe sewer	17.00	8.55	8.58	14.00	10.00	15.00	10.90
580 lin. ft. 20" pipe sewer	15.73	8.54	7.43	12.00	8.00	13.00	10.25
897 lin. ft. 18" pipe sewer	15.12	8.63	7.94	13.00	7.00	12.00	9.00
140 lin. ft. 12" pipe sewer	14.10	6.67	5.05	10.00	5.00	5.00	3.50
11,600 lin. ft. 12" pipe subdrain	2.32	.30	.01	.05	.90	1.00	.01
300 lin. ft. 12" c. i. force main	3.50	5.66	3.04	2.00	3.00	2.50	4.10
9,000 lin. ft. 6" house connection drains	6.32	2.44	2.25	1.75	1.00	1.00	.50
46 manholes	128.00	84.58	69.33	80.00	50.00	75.00	95.00
153 standpipes	40.00	14.10	5.53	12.00	15.00	1.00	2.75
135 M ft. foundation plank g.	28.00	48.67	25.00	25.00	30.00	30.00	32.00
700 M ft. sheeting & bracing	.01	61.73	.01	.01	12.00	.01	.01
Totals	\$214,251	\$157,115	\$99,247	\$133,031	\$119,244	\$136,659	\$105,884

Wernersville, Pa.—Bids were received by the Trustees of the State Asylum for Chronic Insane, Sept. 14, for the construction of a sewage disposal plant, and connections to existing sewer system at the institution; the bids in detail were as follows: (A) W. H. Opperman, Harrisburg, Pa.; (B) New York Sewage Disposal Co., 1 Madison ave., New York; (C) E. E. Bratton, Lewiston and Philadelphia, Pa.; (D) Field, Barker & Underwood, Inc., Arcade Bldg., Philadelphia; (E) J. N. Bastress & Co., Harrisburg; (F) P. L. Scholl, Reading, Pa.; (G) O'Toole & Dempsey, Philadelphia; (H) Thomas & Watkins, Woodbury, N. J.; (I) W. H. Mengerlinghausen, Catasauqua, Pa.; (J) Engineer's estimate.—Henry M. Dechard, Secretary.

	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)
300 cu. yds. concrete, Class "A".....	\$13.00	6.00	\$7.25	\$9.00	\$8.75	\$9.00	\$8.00	\$8.00	\$7.00	\$10.00
400 cu. yds. concrete, Class "B".....	7.50	5.90	6.70	7.00	8.50	8.50	7.00	6.50	6.50	9.50
200 cu. yds. concrete Class "C".....	10.00	5.60	5.00	6.00	7.50	8.00	6.00	5.50	6.00	7.50
40,000 lbs. steel reinforcement.....	.03	.02	.03	.04	.03	.04	.04	.03	.03	.04
400 sq. ft. rib metal, No. 4.....	.06	.06	.06	.07	.05	.05	.05	.08	.05	.06
6,000 sq. ft. rib metal, No. 6.....	.05	.07	.05	.06	.04	.06	.06	.07	.04	.05
600 cu. yds. sand.....	2.00	2.00	2.00	2.50	2.10	2.25	2.20	2.25	2.75	2.00
1 siphon for dosing tank.....	135.00	200.00	140.00	150.00	178.00	175.00	160.00	200.00	135.00	280.00
3,000 lbs. c. i. grating.....	.04	.07	.04	.04	.03	.03	.04	.05	.03	.04
Aperture for settling tank.....	309.00	500.00	600.00	550.00	475.00	800.00	760.00	920.00	563.02	675.00
50 c. i. manhole frames and covers.....	11.00	15.00	6.25	10.00	9.50	7.00	10.50	10.00	20.00	11.60
400 manhole steps, each.....	.44	.20	.20	.45	.22	.20	.55	.31	.20	.20
100 ft. 12" supply to sprinkling filter.....	.93	.45	1.10	.90	1.40	1.12	1.00	.60	2.45	.50
100 ft. 18" half tile.....	.48	.50	.35	.45	.45	.40	.40	.30	.50	.30
6,000 6" half tile.....	.07	.08	.06	.09	.08	.09	.07	.10	.10	.07
50 c. i. risers in filters, each.....	3.47	3.00	2.50	5.25	2.40	3.28	4.25	5.00	2.50	3.10
1 chemical dosing house.....	620.00	1,200.00	820.00	750.00	832.00	850.00	720.00	70.00	1,130.00	850.00
1 oilbox (lump sum).....	55.00	125.00	50.00	70.00	40.00	45.00	75.00	50.00	60.00	40.00
1 chemical mixing tank.....	82.00	25.00	50.00	30.00	50.00	35.00	85.00	55.00	40.00	50.00
40 tons c. i. piping.....	57.00	40.00	37.50	43.00	40.00	42.00	40.00	31.50	42.00	40.00
6,000 lbs. c. i. std. specials.....	.05	.05	.06	.05	.04	.05	.05	.08	.03	.04
7,000 lbs. c. i. flange specials.....	.058	.06	.07	.08	.06	.07	.05	.08	.05	.06
300 ft. 12" t. c. pipe.....	.54	.30	.40	.40	.41	.50	.45	.40	.45	.35
3,000 ft. 10" t. c. pipe.....	.35	.26	.27	.30	.35	.40	.36	.34	.33	.30
300 ft. 8" t. c. pipe.....	.34	.17	.20	.25	.25	.35	.25	.25	.22	.25
900 ft. 6" t. c. pipe.....	.24	.15	.14	.16	.20	.30	.18	.20	.13	.20
50 sprinkling nozzles, each.....	3.70	3.25	3.75	3.75	3.50	3.30	3.25	3.30	4.00	3.00
1 pump and engine.....	816.00	1,200.00	700.00	900.00	720.00	750.00	900.00	350.00	960.00	800.00
1 hand pump.....	42.00	60.00	63.00	40.00	16.00	28.00	70.00	42.00	18.00	15.00
4,000 ft. 2" water line.....	.30	.20	.22	.25	.20	.20	.21	.23	.21	.25
1 8" hub gate valve.....	34.00	37.00	21.00	20.00	25.00	48.50	19.00	22.00	25.20	25.00
6 6" hub gate valves, each.....	21.00	25.00	15.00	12.00	17.50	34.40	12.50	17.50	18.75	19.00
1 4" hub gate valve.....	17.00	22.00	9.00	8.00	9.00	31.00	9.00	12.00	14.00	12.00
8 4" flanged gate valves, each.....	13.00	15.00	10.00	9.00	11.00	11.00	11.50	13.50	19.80	12.00
8 8" brass valves, each.....	7.00	3.00	1.00	1.50	.70	1.45	1.50	1.00	1.00	1.00
5 8" sluice gate valves, each.....	35.00	40.00	30.00	30.00	30.00	20.00	21.00	28.00	30.00	30.00
9 6" sluice gate valves, each.....	29.00	37.00	25.00	25.00	22.50	13.25	17.00	25.00	26.00	23.00
1 8" shear gate valve.....	31.00	25.00	25.00	20.00	18.00	20.00	30.00	22.00	32.00	25.00
4 6" shear gate valves.....	24.00	20.00	23.00	18.00	15.00	12.65	20.00	15.00	28.00	20.00
400 sewer rods.....	125.00	150.00	100.00	75.00	375.00	107.87	140.00	80.00	76.00	100.00
80 concrete manholes, per ver. ft.....	6.50	10.00	6.25	5.00	5.00	5.50	3.00	5.00	4.00	4.50
Total.....	\$22,764	\$19,078	\$18,265	\$20,785	\$20,169	\$21,532	\$19,999	\$18,465	\$20,042	\$21,476

J. C. Broad, \$7,865. Sewer, Browne st., Long & Smith, \$1,790. Sewer, Montgomery ave., J. C. Broad, \$1,965. Sewer, Montgomery ave., Long & Smith, \$1,790. Sewer, Nora ave., Long & Smith, \$2,320.

Beckley, W. Va.—Contract has been awarded to Wingate & McGhee, Roanoke, Va., for street paving and sewer construction amounting to \$80,000.

Janesville, Wis.—Following are the bids opened Sept. 20 for constructing sewers in districts Nos. 10, 11 and 14: Eul, Cochems & Nebel, Sturgeon Bay, \$4,417 (awarded contract); Peoples Construction Co., Davenport, Ia., \$4,815; W. F. Brunt, Hammond, Ind., \$4,854; R. F. Finley, Janesville, Wis., \$5,227; Sweeney Bros., Reedsburg, Wis., \$5,245; Thill, Munnings, Whalen Co., La-crosse, Wis., \$5,291.—C. V. Kerch, City Engineer.

WATER SUPPLY

Anniston, Ala.—The Anniston Water Supply Co. is considering the installation of a large valve, worked by an electric motor, which will cut off the water from the reservoir and allow it to come directly from mains.

Conway, Ark.—City will probably install a water works system.

Little Rock, Ark.—City will extend water mains from 13th st. to the south end of the city.

San Bernardino, Cal.—The Board of Directors of the Riverside Water Co. has voted to replace the worn-out pipe mains between Riverside and the source of the city's domestic supply in the San Bernardino artesian basin and to abandon the lower canal, provided arrangements can be made with the city; upper canal is to be cemented its entire length; the improvements will represent an outlay of about \$80,000.—Francis Cuttle, president of the company.

San Jose, Cal.—The water company will install mains as follows: 7,200 ft. of 4-in. pipe on five street; also 1,300 ft. of 6-in. pipe on Bird st.

Jasper, Fla.—Jasper Water & Light Co. contemplates sinking 6-in. well to about 400 ft. depth.—W. A. Smith, President.

Macon, Ga.—Charles A. Caldwell, of Macon, and Nisbet Hazlehurst, of Atlanta, Engineers, will submit second report to Council, in which they will present designs for new and complete water works system and estimate of cost of building same; this report will be in conjunction with one submitted some weeks ago, in which engineers made appraisal of value of plant now owned and operated by Macon Gas Light & Water Co.

East Moline, Ill.—Board of Local Im-

provements will readvertise for bids for new water main, as bids recently received were above the Engineer's estimate.

Peoria, Ill.—Water main is to be laid in Gift and Dechman aves.; also in Thrush ave.—Fred B. Tracy, City Clerk.

Rock Island, Ill.—Council will engage a consulting engineer to work in conjunction with the city engineer on bids opened Sept. 30 for constructing 6,000,000 gal. filtration plant. John W. Alvord, of Chicago, who rejected previous bids, is favored by some members of Council, but other engineers will present terms.—Address Mayor McCaskrin.

Evansville, Ind.—Board of Water Works will install three new 12-in. water mains in the factory district.

South Bend, Ind.—Council and Board of Public Works are considering the extension of the city water works system in River Park.

Madisonville, Ky.—No bids were received for the water works franchise.

Pontiac, Mich.—Council has passed a resolution for issue of \$125,000 bonds to extend the city's water supply, and an election will be held to vote on the question on Nov. 1. The proposed improvements will consist of a 2,000,000-gal. reservoir with eight new wells and a new 5,000,000-gal. pump and several miles of new water mains.

Lester Prairie, Minn.—Bonds, \$4,500, have been voted for erection of a steel water tank.

Minneapolis, Minn.—City Engineer Andrew Rinker estimates the cost of a plant for filtering river water at \$1,000,000, as compared with a cost of \$10,000,000 for bringing water from M. Lillie Sacs.

Chillicothe, Mo.—An election will be held Oct. 23 to vote on issuing \$150,000 bonds for water works and an electric light plant from plans of Fuller Construction Co., Chemical Bldg., St. Louis.

Laurel, Mont.—Citizens will vote in November on issuing bonds for sewer and water works system, to include large reservoir on the rimrocks back of the town, from which water mains will be laid and which will furnish the town gravity pressure; estimated cost of the two systems \$50,000.

Nelson, Neb.—City Clerk states that bids will be received Oct. 15 for the purchase of \$36,000 bonds to be used for the construction of water works.—C. H. Meeker, McCook, Engineer.

Newton, N. J.—A water system for the borough of Andover is being discussed.

South River, N. J.—Borough contemplates constructing a water plant; cost not to exceed \$75,000.—Charles Anderson, Borough Clerk.

Williamstown, N. J.—Williamstown Water Co., a subsidiary of Williamstown

Gas Co., will install water works system for town at once.

New York, N. Y.—Bids will be received by the Board of Water Supply on October 20, at 11 a. m., for Contract 55, for the construction of portions of Croton and Kensico divisions of the Catskill aqueduct; work includes 8 tunnels on the hydraulic gradient aggregating about 3.7 miles in length, 17 ft. high by 13 1-3 ft. wide inside; about 625 ft. of Putnam siphon of rein. concrete, 16 ft. in diameter; about 5.7 miles of plain concrete conduit known as cut-and-cover aqueduct, 17 ft. high by 17 1/2 ft. wide inside; the by-pass aqueduct, the influent, and effluent gate-chambers and aeration works of Kensico reservoir, and other accessories; the work is located in the towns of New Castle and Mt. Pleasant, Westchester County.—John A. Benschel, President; Waldo Smith, Chief Engineer.

Painted Post, N. Y.—This village will be asked to vote an additional \$10,000 for the installation of new municipal water system.

Pike, N. Y.—City has voted to install a \$15,000 gravity water system.

Fargo, N. D.—City will lay a 12-in. main in two streets; also 10, 8 and 6-in. mains.—S. F. Crabbe, City Engineer.

Akron, O.—Council has appropriated \$1,000 for preparation of plans, specifications and estimates for a municipal water plant.—J. W. Payne, City Engineer.

Dayton, O.—City will lay water mains in two streets.

Mansfield, O.—A resolution has been adopted to extend water mains in six streets.

Youngstown, O.—Council has decided to hold an election for voting on issue of \$250,000 bonds for the erection of a municipal water works.

Youngstown, O.—Council has transferred \$4,000 to the pipe extension fund and the Board of Public Sewers has been authorized to expend \$500 for water pipe, specials, etc.

Ardmore, Okla.—Commissioner Dawson and City Engineer have been instructed to make preparations for installing best filtration plant and septic tanks, as money for water and sewer extensions is now available.

Chickasha, Okla.—Bonds, \$190,000, have been voted to extend water and sewer services, and contracts will be let in a few days; the water station will be improved by building other settling basins and installing additional power, and a standpipe will be built.

Woodward, Okla.—The vote on the water extension bonds favored the issuance by a majority of 108.

Altoona, Pa.—The use of meters is being urged.—S. M. Hoyer, Mayor.

Bridgeport, Pa.—Councils have author-

ized the Board of Water Commissioners to drill artesian wells in the Third Ward flats; test well is to be put down as soon as possible and a \$9,000 pumping plant may be installed, consisting of an adequate centrifugal pump; six 8-in. wells, 90 ft. or thereabouts, to yield a production of about 2,000,000 gals. of water daily; water will be pumped directly into the storage reservoir on Newell Hill, above Summer st.

Chambersburg, Pa.—Council is considering plans for the construction of a filtration plant.

Claysville, Pa.—Council has instructed the Secretary to request of various manufacturing firms competitive bids for placing on the borough lot an open hearth steel or wrought iron tank 35 ft. in diameter and 30 ft. high; capacity about 7,000 barrels.

Falls Creek, Pa.—An ordinance has been passed, in accordance with the statutes, to appropriate the waters of Falls Creek and to make surveys for a dam and reservoir.—A. E. Dunn, President.

Lebanon, Pa.—Bill for bond issue of \$140,000 for South Mountain pipe line has passed final reading.

Uniontown, Pa.—A new system of water works has been projected; the P. & L. E. Railroad Co. has taken the matter in hand; a filtration plant will be a feature and all modern appliances will be installed.

Athens, Tex.—Athens has voted bonds to build water works.

Dallas, Tex.—Bids have been ordered for the clearing off of that part of the grounds for the White Rock reservoir that lies between the Garland and the Calhoun roads.

Fort Worth, Tex.—The City Commissioners have decided to accept Commissioner Powell's recommendation to construct a dam at the confluence of the West and Clear Forks at a cost of \$50,000 and to abandon such plans as had been formed for utilizing the Parker County reservoir site. Construction of the Trinity dam will mean a dual water system. Artesian water from the deep wells will be used for all household purposes, and the river water will be used for fire fighting, street sprinkling, etc. Secondary mains for the dual system will be placed. Work on the new reservoir will be commenced at once. The Commissioners also decided to adopt the suggestions of Engineer Griffin for an extension of the artesian water system and for the construction of a 5,000,000-gallon artesian storage reservoir.

North Yakima, Wash.—The Northwest Light & Power Co. has offered to sell its water works to the city for \$310,000. The question will be decided by vote.

Oakville, Wash.—Citizens have asked the Town Council to grant a 50-year franchise to E. Shoemaker for a light and water system.

Prosser, Wash.—Dunn & Dunn, Engineers, are planning a water system for the city; estimated cost \$23,000.

Tacoma, Wash.—Petitions for water main have been referred to the Fire and Water Committee. H. J. McGregor, Commissioner of Public Works.

Walla Walla, Wash.—The Water Committee has recommended that a water district be formed in accordance with the petition of J. W. Langdon.

Walla Walla, Wash.—An ordinance has been passed for constructing water mains in the territory added to the city since March, 1905.

Clarksburg, W. Va.—Bids will be received Nov. 5 for \$27,000 water works improvement, street paving and sewerage bonds.—Address City Clerk.

Dayton, Wyo.—Citizens have voted bonds for the construction of water works.

Meeteetse, Wyo.—City will install a water works system.

Burnaby Lake, B. C.—There is a movement under way to construct water works; the plan is for three municipalities, Burnaby, Point Grey and South Vancouver, to bring water from one source in a single main, which will subdivide for the different districts.

Maple Creek, Sask., Can.—Bids will be opened Oct. 15 by H. A. Greeley, Secretary-Treasurer, town, for the erection of a sewage pumping plant with an approximate capacity of 350 gals. per minute.

Taber, Alta., Can.—City will install a water works system.

BIDS RECEIVED AND CONTRACTS AWARDED

Apple River, Ill.—Contract for constructing water works has been awarded Galena Iron Works Co., of Galena, for \$14,339.—W. H. Smith, Village Clerk.

East Moline, Ill.—Board of Local Improvements opened bids for laying new water main, and the Moline Heating and Construction Co.'s bid was lowest, but this was above the Engineer's estimate; Board will ask for more bids; other bidders were C. A. Berglund and the Plambeck Co.

Moline, Ill.—Contract for laying sewers and water mains has been awarded to F. E. Kaminski, of Watertown, Wis., for \$5,536.

Rock Island, Ill.—Bids for the construction of a 6,000,000-gallon filter plant at the present reservoir site were opened September 30 and seven different companies presented bids as follows: New York Continental Jewel Co., \$56,990, \$58,990, \$57,665, \$57,590, \$58,990, \$59,090; American Water Softener Co. of Pittsburg, \$60,569, with a proposition to tear down the old buildings at the water works and erect brick buildings for \$7,000 additional; Pittsburg Filter Manufacturing Co., \$61,000, with several additional bids of amounts of from \$300 to \$850; Fred T. Ley Co. of Springfield Manufacturing Co., \$39,000 flat, with ten additional propositions; the bid to build the plant as specified by the city would amount to \$43,000; Roberts Filter Manufacturing Co. of Philadelphia, \$59,000 and \$56,500; Norwood Engineering Co. of Florence, Mass., \$66,517, \$67,260, \$67,143, \$67,965, \$70,000, \$70,500, and two additional propositions which would deduct from any of the above bids the sum of \$1,000; Thomas Lightbody Co. of Youngstown, O., \$66,000.

Seymour, Ia.—Bids were opened Sept. 27 for material for water works, and contracts have been awarded as follows: To U. S. Cast Iron Pipe Co., for c. i. pipe, \$27.95 and \$28.70 per ton, and specials 2.75c. per lb.; to the Gould Co., for power pumping machinery and motor, \$1,470, and to the Rensselaer Mfg. Co., of Troy, N. Y., for hydrants, valves and boxes.—Geo. Cadogan Morgan, 169 Jackson Blvd., Chicago, Ill., Engineer.

Hutchinson, Kan.—The Peoples Water, Light & Power Co. has made a formal proposition to the city of Hutchinson, offering to sell its lighting plant and property to the city for the sum of \$175,000.

Fort St. Philip, La.—General Contracting & Construction Co., Atlanta, Ga., has contracts for constructing sewerage and water systems at Fort St. Philip, except for pipe, which was awarded to Alken & Reilly, St. Louis, Mo.; cost \$45,000.

New Bedford, Mass.—Contracts for furnishing the Water Department with 12 tons of lead pipe and 50 tons of pig lead were awarded to the Chadwick-Boston Lead Co.; there were eight bids for the two contracts, and Fitz-Dana & Co., of Boston, would have secured the pig lead contract, which would have amounted to \$4,475 for that firm, had it not been for the stipulation in the bid that "spot cash" should be paid on the arrival of the lead; this the Board considered was irregular; the bids for the 12 tons of lead pipe were as follows: National Lead Co., per ton of 2,000 lbs., \$106.40; L. H. Tillinghast Supply Co., Providence, R. I., \$106.40; New Bedford Boller & Machine Co., \$106; Chadwick-Boston Lead Co., Boston, Mass., \$98. Sealed bids for a supply of pig lead were as follows: Jonathan Handy Co., New Bedford, Mass., per ton of 2,000 lbs., \$91.75; Bruce & Cook, New York City, (a) for 25 or 50 tons, \$90, (b) if a quantity between 25 and 50 tons, \$91.40; Chadwick-Boston Lead Co., Boston, Mass., \$89.90; Fitz-Dana & Co., Boston, Mass., spot cash upon arrival of lead, \$89.50.

Avon-by-the-Sea, N. J.—The contract for extending the water system a distance of 6,100 ft. has been awarded to John Smith, of Spring Lake, at 67c. per lin. ft.

Oswego, N. Y.—The Department of Water, Oct. 5 awarded Kehoe Bros. contract of installing a heating plant at the new lake water pumping station on the lake front, the contract price being \$850 without a boiler; there was only one other bid on the work submitted, that of M. B. Crawford, for \$1,086.

High Point, N. C.—City awarded contract at \$22,961 to U. S. Construction Co., Columbus, O., for improvements to water works, including the reservoir, dam, etc.—Gilbert C. White, Durham, N. C., Engineer.

Moorestville, N. C.—Bids were opened Oct. 1 for the construction of water works from plans of Adlai Osborne, of Newton, and the contract has been awarded to Tucker & Lax Co., of Charlotte, for \$8,719; other bids received were as follows: J. M. Edwards, Hickory, N. C., \$8,772; McCay Engineering Co., Baltimore, Md., \$9,117; W. E. Sexton, Mineola, L. I., N. Y., \$9,331; Weston & Brookes, Columbia, S. C., \$9,440; Graham, Davidson & Co., Richmond, Va., \$10,596.

Cincinnati, O.—Bids were opened Sept. 27 by the Board Public Service for furnishing and delivering c. i. pipe and special castings for the water mains required for the distribution system of the city, and the contract has since been awarded to the U. S. Cast Iron Pipe & Foundry Co., for about \$25,610.

Muskogee, Okla.—Bids for 2,600 lin. ft. of 6-in. water pipe were opened and the Dimmick Pipe Co., of Kansas City, secured contract at \$28.85 per ton f. o. b. cars Muskogee.

Portland, Ore.—Water Board has award-

ed following contracts for laying water mains: For putting mains on Burnside and Gilsan sts., to Pacific Bridge Co., at \$3,292 and \$12,281, respectively; the Jacobson-Bade Co., for putting in the mains at Aspen st., at \$2,028; William Stevenson, the contract for laying the mains on East Yamhill, East Harrison and East 39th sts., at \$5,628, \$2,265 and \$5,886, respectively.

Bradford, Pa.—Contract for enlarging reservoir has been awarded to the Northwestern Construction Co., of Franklin, for \$66,257.

Wagner, S. D.—Contract for approximate 3,000 ft. 6-in. water mains, with hydrants, has been awarded to Guy E. Smith, of Indianola, Ia., for \$2,789.

Salt Lake City, Utah.—Bids were opened Sept. 17 by the Board Public Works for constructing the North Temple st. aqueduct across West Temple, First West and Second West sts. as follows: McKay & Reed, \$6,847; Zerbe & Walker, \$7,200.—Louis C. Kelsey, City Engineer.

Norfolk, Va.—Contracts were awarded by the Board of Control for 500 lbs. of ingot wiping solder, to the Virginia-Carolina Supply Co., of Norfolk, and for a small order of sundry supplies for the Water Department to the Hays Manufacturing Co., of Erie, Pa.

Tacoma, Wash.—Bids for the construction of a bulkhead on the north side of the low service reservoir were opened by Commissioner of Public Works H. J. McGregor, but no award was made because each of the three bids received was above the estimate of the City Engineer; Charles F. Burgeson bid \$6,000, the Northwest Bridge Co. \$6,990, and the Wells Construction Co. \$6,455; the estimate was \$4,392.

Milwaukee, Wis.—Allis-Chalmers Co., Milwaukee, has been awarded contract, at \$2,650, for alterations in 30-in. distributing main from pump No. 3 at city North Point pumping station.

Waukesha, Wis.—Contract for furnishing about 11,200 ft. of c. i. pipe, bids opened Sept. 21, has been awarded to the Lynchburg Foundry Co., of Lynchburg, Va., at \$25.30 per ton.

Wheatland, Wyo.—The National Co., of South Bend, Ind., has secured contract for constructing water works for Wheatland.

LIGHTING AND POWER

Mammoth Springs, Ark.—Frank F. Hill, Memphis, Tenn., and associates will, it is reported, build water-power-electric plant to transmit electricity to Mammoth Spring and Jonesboro, Ark.; West Plains, Mo., and other cities; probable cost \$300,000.

Los Angeles, Cal.—An issue of \$3,500,000 power bonds for use in developing the power of the Los Angeles aqueduct has been asked for by Board of Public Works.

San Bernardino, Cal.—The County Supervisors have ordered the sale of a franchise for electric and power pole lines over various highways in the county.

St. Augustine, Fla.—City contemplates installation of power for operating water works machinery.—A. J. Pellecier, Superintendent.

Chicago, Ill.—Plans have been completed by Shepley, Rutan & Coolidge, Architects, 206 La Salle St., for the construction of a large addition to the power plant of the Commonwealth Edison Co., at Quarry st. and the river; estimated cost \$1,000,000.

Streator, Ill.—Improvements are being made to the power house of the Illinois Light & Traction Co., Clifton W. Tyler, Chief Engineer, which will include the installation of two 312 h.p. Heine boilers, stokers, grates and a coaling trestle.

Evansville, Ind.—Residents of Lincoln ave. have petitioned Board of Public Works for electric lights.

Pendleton, Ind.—Town Board has granted Holmes Bros., of Indianapolis, a franchise for an electric light plant.

Iowa Falls, Ia.—The Interstate Power Co. will expend about \$612,500 in the construction of a plant at Iowa Falls.

Louisville, Ky.—Kentucky Electric Co. will issue \$1,500,000 5 per cent gold bonds for building tunnel under Water st. and 3d ave. to river for condensing water, extension of central station to provide for 14,000 kw, and additions to overhead and underground systems; bids all invited at once.—L. S. Strong, Chief Engineer; C. W. Humphrey, Consulting Engineer.

Baltimore, Md.—City may install municipal lighting plant, and will invite bids for municipal lighting in January or February, so that there will be ample time for constructing city plant by the expiration of present contract in September, if satisfactory bids are not received.—Robt. J. McCuen, Superintendent of Lamps and Lighting.

Boston, Mass.—The Boston Elevated Ry. Co. is planning to build a substation in the Forest Hills district, at the intersection of Washington st. and Bray st., to be used in

supplying power to the Forest Hills elevated railway extension.—John W. Corning, Electrical Engineer.

Marblehead, Mass.—Improvements in the municipal lighting plant have been recommended by the committee having the matter under consideration.

Mankato, Minn.—Citizens will vote on establishing a municipal electric light plant.

McKinley, Minn.—Citizens have voted \$5,000 bonds for construction of an electric light plant.

Winona, Minn.—The Winona Railway & Light Co. contemplates purchasing boilers and coal handling outfit for its plant.—C. A. Bernier, Electrical Engineer.

Hillsboro, Mo.—Citizens may vote on \$15,000 of bonds for the construction of an electric light plant.

Sweetwater, Nev.—The Walker River Electric Power Co. is planning to install a large electric plant on the East Walker River, near here; estimated cost about \$750,000; George B. Costigan and Dr. A. L. Pollard, of Denver, Col., are interested.

Irrington, N. J.—The Town Council has adopted a resolution authorizing the Lighting Committee, George W. Wells, Chairman, to have plans prepared for a municipal lighting plant and to invite estimates for same.

Orange, N. J.—Revised plans and specifications for the installation of a municipal lighting plant are about ready; on the recommendation of the Street Committee Council has rejected the bids received Sept. 20.

Batavia, N. Y.—The Genesee Light & Power Co., of Batavia, has been incorporated to furnish light, heat and power, with a capital of \$250,000. The incorporators are W. C. Lewis, Boston, Mass.; A. Ludeke, Hoboken, N. J.; F. W. Keller, New York.

Rochester, N. Y.—The Rochester Railway & Light Co. will erect 16 poles on the south side of Genesee Park Boulevard, from Genesee st. to the city line.—Frederick T. Elwood, Commissioner of Public Works.

Grand Forks, N. D.—A petition has been presented to Council for the extension of the street lighting system in De Mers ave.

Columbus, O.—The Board of Managers of the Penitentiary has revoked contract recently let to John Hina, city, at \$46,000, for constructing power house, and will receive new bids at once.

Erlick, Okla.—Bonds, \$10,000, have been voted for an electric light plant.

Konawa, Okla.—City will receive bids on materials and machinery for construction of water and light plant to cost \$30,000.—Mackintosh-Barbour Co., Bassett Bldg., Oklahoma City, Engineers.

Salem, Ore.—The Portland Railway, Light & Power Co. has been granted a franchise by the Marion County Court for the construction of a high power transmission line from Mt. Angel to Woodburn; the power line will be installed at a cost of over \$7,000 and will materially improve the power service in Salem as well as in Woodburn, Mt. Angel and other towns in the vicinity.—Rollin K. Page, Manager.

Gilbertsville, Pa.—Citizens are agitating a lighting system for the town, current to be supplied from the plant at Boyerstown.

Harrisburg, Pa.—Consulting Engineer Fuertes has completed plans for a dam in the Susquehanna.

Austin, Tex.—Three distinct plans for the rebuilding of the Austin dam are before the Dam Committee appointed by President Cullen of the Austin Business League, which is being aided by Mayor Woodriddle and Col. M. M. Shippe; the committee will shortly visit Marble Falls to inspect the new dam across the Colorado River.

Richmond, Va.—E. W. Trafford, Consulting Engineer, submitted to Council Committee on Water and Electricity blueprints for system of poles, wires and lights throughout city, and estimates that supplementary appropriation of \$40,000, in addition to \$350,000 provided by bond issue, will be required to complete system; plans propose total of 960 lamps; new circuits are to be laid on capacity of 1,000 lamps, plant having ultimate capacity of 1,200, in addition to 4,000 incandescent bulbs for lighting public buildings; contracts awarded on main electric plant aggregate \$196,112.—E. W. Richardson, Chairman Water and Light Committee.

Bellingham, Wash.—The Whatcom County Railway & Light Co. plans to double the capacity of its York st. power station; estimated cost \$140,000; the company is installing a new water wheel to displace the turbine in use at the Nooksack Falls power station, at a cost of \$35,000; the York st. station has at present a capacity of 2,000 h.p.—L. R. Coffin, Electrical Engineer.

Seattle, Wash.—The Seattle Lighting Co. will extend its mains in the district east of Green Lake station, and on the west side of the lake as far as Mountain View station.

Tacoma, Wash.—City Engineer Frank C. Kelsey has a dozen engineers at work on

plans for the Nisqually power plant project.

Walla Walla, Wash.—The General Manager of the Northwestern Corporation states that the company will build a 100,000-h.p. plant on the Deschutes River, the power to be used for lighting and traction purposes, mainly the latter.

Shullsburg, Wis.—Bids are wanted for a franchise for an electric lighting plant.—W. S. Webb, City Clerk.

St. Catharines, Ont., Can.—Plans are being made by the Niagara, St. Catharines & Toronto Railway Co. to construct a rotary transformer station with an output of 500 k.w.

BIDS RECEIVED AND CONTRACTS AWARDED

Highland, Cal.—The Electric Co., represented by Messrs. Frost & Childs, has been awarded street lighting contract at 70c. a light per month, on an all-night schedule for five years; territory not yet decided on.

Jefferson, Ga.—The Jefferson Cotton Mills Co., of Jefferson, has received contract from the City Council to construct an electric light plant to light town and pump water, construction on which will begin at once.—E. P. Taylor, Athens, Engineer.

Erving, Mass.—The Orange Electric Light Co., of Orange, Mass., has been awarded contract by the city for supplying electricity for lighting houses and streets, 740 c.p.

Grand Forks, N. D.—Council has awarded contract for installing new lighting system to Dinnie Bros., the second lowest bidders, as the Electric Construction Co. of St. Louis declined to carry out contract.

Hamilton, O.—The city has closed a contract with the Ohio Fuel Supply Co. to furnish the city with a ten-year's supply of natural gas; the gas is to be delivered to the city at a distributing center and the city will take charge of the distribution, selling gas to the public at 30c. a 1,000 feet; under the contract the city will pay 18c. a 1,000 feet for the first two years, 20c. for the next three and 22c. for the following five years.

Youngstown, O.—The Mahoning & Shenango Railway & Light Co., Youngstown, has awarded contracts for one 600-k.w. motor generator set to the Westinghouse Electric & Mfg. Co., Pittsburg, Pa., and one 200-k.w. motor generator set to the General Electric Co., Schenectady, N. Y. It is stated that two additional boilers will be installed in the North ave. power station about Nov. 1, meaning an addition of 1,000 h.p.

Seattle, Wash.—The Board of Public Works has awarded contract for furnishing the city with electric incandescent lamps to the Forbes Electrical Supply Co. for the ensuing year. The contract will amount to about \$40,000.

Washtucna, Wash.—The City Council has awarded contract to A. Gildersleeve to install an electric lighting system, to cost from \$5,000 to \$6,000. He proposes to furnish seven arc lamps of 2,000 c.p. for lighting the streets, and to furnish electricity for lighting the town hall and hose house for \$624 per year, under a 5-year contract.

FIRE EQUIPMENT

Eufaula, Ala.—Eufaula will have an electric fire alarm system installed in 1910.—Chief Riley.

Warehouse Point, Conn.—Town is considering increasing its fire protection.

Wilmington, Del.—A committee has been appointed to purchase an auto combination fire engine and chemical apparatus for the Reliance Fire Company; cost \$9,000.

Wilmington, Del.—The Water Witch Fire Co. has practically decided to buy a new engine. Some of the members favor an auto apparatus.

Jacksonville, Fla.—Provisions are being made for more hose wagons.

Ybor City, Fla.—New fire engine may be purchased.

Augusta, Ga.—City will build fire station and install a fire alarm system; bids are invited.

East Point, Ga.—A fire company will be organized and necessary equipment purchased.

Aurora, Ill.—Council has voted \$6,500 for new hook and ladder truck.

Galesburg, Ill.—City may equip Fire Department with a steamer.

Joliet, Ill.—Appropriation of \$8,000 has been made for the purchase of a site for a new fire house.

Indianapolis, Ind.—City will probably purchase motor apparatus.—C. W. Bookwalter, Mayor.

Indianapolis, Ind.—Appropriation of \$2,500 has been made for new apparatus for Fire Department.

La Fontaine, Ind.—City is contemplating purchase of a fire engine and a supply of hose.

Iowa City, Ia.—C. C. Clark, Fire Chief, has completed the plans for the erection of a new fire station.

Mound Ridge, Kan.—City will improve its fire equipment.

So. Portland, Me.—Hose Company No. 1 will hold a fair to aid in the purchase of 500 ft. of fire hose.

Holyoke, Mass.—An auto will be purchased for Chief Lynch.

Lowell, Mass.—City will probably purchase a 60-h. p. auto chemical and hose wagon.—Geo. Brown, Mayor.

Kalamazoo, Mich.—A site has been selected for the Third Ward fire station.

New Bedford, Mass.—City will probably spend \$12,000 on improving the equipment of its Fire Department; an automobile engine, 2,000 ft. of hose and 12 additional alarm boxes will be among the requisites purchased.

Jersey City, N. J.—The Western Slope Improvement Association asks for better fire protection and a fire-alarm box in section.

Mt. Ephraim, N. J.—Members of the newly organized Fire Department are raising funds to equip the department as soon as possible.

Newark, N. J.—City will probably buy a new hose cart and a hook and ladder wagon for the district around the Overbrook asylum.

Red Bank, N. J.—An election will be held to vote on \$20,000 bonds for fire house and apparatus.

Newark, N. J.—Council has passed ordinance authorizing \$50,000 bonds to enable and Fire Board to bury the wires of the fire alarm telegraph system.

New Brunswick, N. J.—City has purchased a site at Wyckoff and Bartlett sts. for a new engine house for Hibernia Engine Co., No. 6.

Cold Spring Harbor, N. Y.—Village needs some kind of fire protection.

Halesite, L. I., N. Y.—Town will probably purchase a hook and ladder truck.

New York, N. Y.—Bids are asked by Nicholas J. Hayes, Fire Commissioner, Oct. 15, 10.30 a. m., for furnishing and delivering two fourth-size steam fire engines, and for furnishing and delivering three combination hook and ladder trucks and chemical engines.

Wolcott, N. Y.—City will build a new engine house; cost, \$2,000.

Dayton, O.—City may soon install fire escapes on all school buildings.

Norwalk, O.—City has decided to install a half dozen more fire hydrants.

Beaver Falls, Pa.—Council has decided that there shall be more stations, hose and firemen.

Butler, Pa.—Plans for the new fire station to be at W. North st. have been finished.

South Bethlehem, Pa.—Fire alarm system will be improved at a cost of \$2,500 and \$2,500 will also be expended on the police signal system.—President Gross, of Borough Council.

West Chester, Pa.—The Brandywine Fire Co. is contemplating the purchase of up-to-date patrol wagon.

West Newton, Pa.—Citizens are urging installation of complete fire signal system and more fire hydrants, and purchase of additional hose, as a result of a recent conflagration.

Charleston, S. C.—Chief Behren has recommended purchase of two auto fire engines.

Fort Worth, Tex.—Purchase of 1,500 ft. of new hose for the 9th Ward fire hall has been authorized; Commissioner Maddox announced the purchase of a lot for the new North Side fire hall at 24th st. and Prospect ave.

Wichita Falls, Tex.—Council will purchase a new automobile fire engine.

Salt Lake City, Utah.—Petition of Fire Chief Glore for two fire engines or the repair of boilers to that many old engines is in hands of Fire Committee; Chief also wants 10,000 ft. of fire hose.

Portsmouth, Va.—Selection for site for the Annex Fire Company No. 5 in the 7th Ward has been left to members of that company and the Councilmen from the Ward.

Bethel, Vt.—Town has voted \$4,000 for an improved fire pump.

Odessa, Wash.—Council will purchase apparatus for new fire company.

Tacoma, Wash.—Fred A. Ballin and Spear & McCoy have petitioned Council jointly to be awarded the contract of preparing plans and specifications for a fire boat.

Milwaukee, Wis.—It has been recommended that a \$4,500 automobile be purchased for Chief Clancy.

Montreal, Que., Can.—Sites have been purchased for two modern new fire stations.

Toronto, Ont., Can.—Council has decided to purchase two new fire engines; tenders will also be called for three life-saving nets also.

BIDS RECEIVED AND CONTRACTS AWARDED

Washington, D. C.—Bids were received as follows on Sept. 28, by the Commissioners of the District of Columbia for furnishing 15,000 ft. of fire hose; Eureka Fire Hose Co., 13 Barclay st., New York, \$12,000, \$15,000; Gutta Percha & Rubber Mfg. Co., 126 Duane st., New York, \$15,000; Fabric Fire Hose Co., New York, \$15,000; National Electrical Supply Co., Washington, \$10,305.

Augusta, Ga.—The Fire Committee of Council opened bids for the construction of the new Fire Headquarters and recommended that the contract be given J. H. McKenzie's Sons, at \$22,048, the front to be of pressed brick; Council has confirmed the action of the committee; contract calls for the construction of the building, the hose rack, paving and gasoline storage.

Kewanee, Ill.—The Fire Committee Council has decided to purchase, from the Manhattan Rubber Co., Passaic, N. J., 1,000 ft. of cotton hose at \$1 per ft.

Evansville, Ind.—The contract for the new police sub-station and No. 8 hose house has been awarded to M. J. Hoffman by the Board of Public Works, at \$4,594. Three bids were received. They are: Jacob Blippus, \$4,950; Brazil brick, \$110 extra; M. J. Hoffman, \$4,954; with Brazil brick, \$91; Ben F. Hoffman, \$5,700. The combination hose house and police sub-station was designed by Architect F. J. Schlotter. It has many modern features, including sitting rooms for patrolmen and firemen.

Duluth, Minn.—The Board of Fire Commissioners has directed Secretary Harry H. Lenont to ask the Council's approval of the contract which has been let to the Knott Co., of Minneapolis, for a new fire engine to cost \$5,800; the new engine is being secured to supply the need of West Duluth.

New York, N. Y.—Bids were opened September 29 by Fire Commissioner Nicholas J. Hayes for furnishing and delivering 15,000 feet of 2½-in. cotton fabric rubber-lined hose for the Borough of Manhattan, Richmond and the Bronx. The successful bidder was Eureka Fire Hose Manufacturing Co., \$17,400. For furnishing and delivering 15,000 ft. of 2½-in. cotton fabric rubber-lined hose for the Boroughs of Brooklyn and Queens, the successful bidder was Eureka Fire Hose Manufacturing Co., \$17,400.

ELECTRIC RAILWAYS

Los Angeles, Cal.—The Board of Supervisors has passed ordinance authorizing sale on Oct. 22 of franchise to build a street railway on W. Adams st., from Washington St. to the city limits.

Pasadena, Cal.—An interurban electric railway will be built from Pasadena to Los Angeles by the Pasadena Rapid Transit Co.

Santa Barbara, Cal.—Council will receive bids Oct. 21 for a franchise applied for by the Santa Barbara Consolidated Railway Co. to build an electric railway over certain streets.

New London, Conn.—The New London & East Lyme Street Railway Co. has been chartered to construct an extension to its line from Flanders to the Connecticut River.

Jacksonville, Fla.—The street railway system of Jacksonville is to be reconstructed under the supervision of William Vaughan Polleys, a Providence, R. I., civil engineer. He has been engaged by the Stone & Webster Engineering Corporation, of Boston, which has charge of the improvements.

Champaign, Ill.—The Illinois Traction system has applied to Council for a franchise to extend its railway in Champaign.—H. E. Chubbick, General Superintendent, Peoria.

Elgin, Ill.—The Elgin, Woodstock & Lake Geneva Railway Co. will let construction contracts within 60 days for line 65 miles long, to connect Elgin, Dundee, Carpentersville, Algonquin, Crystal Lake, Woodstock, McHenry and Lake Geneva; surveys are made and most of the right-of-way secured.—Frank R. Spear, President, 806 Great Northern Bldg., Chicago; the George Painter Contracting Co., 701 Great Northern Bldg., Chicago, Engineer.

Galesburg, Ill.—Council has granted an extension of the franchise of the Peoria & Galesburg Railway Co. from 25 years to 30 years.—S. F. Atwood, Mayor Bldg., Peoria, Secretary and Treasurer.

Moline, Ill.—The Tri-City Railway has asked for extension of the Fourth avenue line into the southeastern part of the city and changing the interurban's entrance.

Peoria, Ill.—Operations on interurban extensions to Fairview and Farmington will soon begin.

Goshen, Ind.—The Winona Interurban Traction Co. has secured a franchise to build an electric belt line in city.

Cedar Rapids, Ia.—The Cedar Rapids & Iowa City Railway & Light Co. is planning the construction of three interurban lines the coming year; one to Muscatine by way of Iowa City; another to Monticello, and a third to Waterloo.

Ottumwa, Ia.—The Ottumwa Interurban Co. has surveyed three routes for the interurban road to Oskaloosa.

Glasgow, Ky.—The Fiscal Court of Barren County has granted a franchise to Chas. Van-Den-Burgh to build an electric railway through Barren to Hart County; the railway will extend 18 miles from Glasgow to Horse Cave. J. Lewis Williams, Glasgow, is interested.

Boston, Mass.—An issue of bonds by the Connecticut Valley Street Railway Co. not to exceed \$700,000, par value, has been approved by the State Board of Railroad Commissioners, a portion of which is to be devoted to improvements on the road.

Boston, Mass.—Fitchburg & Leominster Railroad Co. will be asked to extend its service through North st. to Putnam Pond, East st. and other thoroughfares. Russell H. Proctor, of Ward 5, is interested.

Breckenridge, Minn.—The Wahpeton & Breckenridge Street Railway Co. will build an electric railway to connect Breckenridge and Wahpeton, N. D. Capital, \$50,000.—D. J. Jones, Jos. Gunn, Breckenridge, Incorporators.

Albuquerque, N. M.—M. P. Stamm and associates have been granted franchise to construct 2-mile electric railway in Albuquerque, and a franchise to furnish power for lighting, etc.

Elizabethtown, N. Y.—The Elizabethtown Terminal Railroad Co., New York, has been incorporated with a capital of \$80,000 to operate by steam or other motive power a railroad eight miles long in Essex county; the proposed road is to run from the Delaware & Hudson station at Westport to Elizabethtown. Directors include Richard L. Hand, Francis A. Smith and others of Elizabethtown.

Hickory, N. C.—The Hickory Railway Co. has partly secured its right-of-way for its railway which will connect Hickory, Lincolnton, Catawba Springs, Taylorsville, Wilkesboro, Jefferson, Boone and Blowing Rock, 85 miles; surveys are partly made; contracts will not be let until after the completion of hydro-electric development on the Catawba River.—M. E. Thornton, President.

Miami, Okla.—The Mid-Continent Traction & Power Co. will build an electric railway from Miami to Shawnee, a distance of about 200 miles. Estimated cost, \$4,000,000. Capital, \$100,000.—J. Robert Burnham, Tulsa, Chief Engineer.

Shawnee, Okla.—The Shawnee Electric Railway Co. will build an electric traction line from Shawnee to Oklahoma City, 40 miles; preliminary surveys have been made under direction of A. Hardgrave, Chief Engineer; arrangements have been made for financing through J. P. Hornaday & Co. and J. B. Taylor & Co., 30 Church st., New York. It is proposed to operate by electricity with natural gas as motive power and to install the latest model of gas engine generators. The company also proposes to sell light and power to the towns along the line. The proposed line has been examined and reported favorably on by engineers of J. B. Taylor & Co. Company will probably start construction in a short time.

Tulsa, Okla.—The Oklahoma Union Traction Co. intends to extend its proposed Sapulpa line so as to take in Jenks, Broken Arrow and Bixby. This line will be over 30 miles long and will connect the principal towns in Tulsa County besides the two larger cities, Tulsa and Sapulpa. It is said this line will be under way by mid-winter and completed by next summer.

Portland, Ore.—J. H. Huribert, Fontanelle, Ia., has purchased the United Railways of Portland.

Chambersburg, Pa.—Application has been made by the Bedford, Fulton & Franklin Electric Railway for a charter for a 50-mile line to run from Bedford to Chambersburg. The company has a capital of \$300,000 and the signers to its papers are M. J. Murphy, George W. Rook, J. F. Fay and J. T. Daly, Pittsburgh; H. D. Tate, Bedford, and M. H. Sheats, McConnellsburg.

Greensburg, Pa.—An electric railway between this point and Latrobe, Ligonier and Johnstown is an assured fact. The enterprise will be financed by the Mellon interests of Pittsburgh, owners of the Ligonier Valley Railroad. Engineers are locating the line following closely upon the heels of the right-of-way agents. It is expected the line between here and Latrobe will be completed early in December.

Lebanon, Pa.—Council has passed the franchise bill giving the Lebanon and Ephrata Street Railway Company the use of the city's streets.

Waynesburg, Pa.—Pittsburg, Monongahela & Washington Railway Co. has ap-

plied to Council for a franchise to build its railway over city streets.

Aberdeen, S. D.—A. L. Ward, city, has been granted a franchise to build a street railway in Aberdeen; the Aberdeen Railway Co. is now being organized.

Bellingham, Wash.—Samuel Alsop has in contemplation a plan to construct a 20-mile electric railway in Bellingham and through the Nooksack Valley.

Dayton, Wash.—The Walla Walla & Columbia Traction Co. has estimates for building a power house.

Tacoma, Wash.—H. C. Dodson and others have asked that the Portland avenue car line be extended.

Walla Walla, Wash.—Locating Engineers E. S. Keating and crew of the Spokane, Walla Walla & Western Electric line have completed the preliminary survey of the proposed route between Dayton and Wallula and are waiting orders to survey the location line. The route is 63 miles in length and taps the same country touched by the Washington Traction Co., another projected line which has secured English backing.

Walla Walla, Wash.—The Washington Traction Co. plans to let construction contracts the latter part of the month; the line will connect Dayton and Pasco, Wash., 143 miles.—Gilbert Hunt, President, Walla Walla.

Charleston, W. Va.—The Board of Affairs has passed a franchise amendment allowing the Kanawha Valley Traction Co. to build a car line on Russell st.

Milwaukee, Wis.—The Milwaukee Electric Railway and Light Co. is trying to secure the right-of-way for the construction of an electric road to Beaver Dam, a distance of 50 miles.

BIDS RECEIVED AND CONTRACTS AWARDED

Lowell, O.—The Muskingum River Traction Co. (the Parkersburg, Marietta & Interurban Railway Co.) has awarded the following contracts on the 10-mile line between Lowell and Beverly, O.: Grading, three miles completed, to R. T. Martin; concrete, to Canner & Battersby; steel, McClintic-Marshall Construction Co., Pittsburgh.

BRIDGES

Phoenix, Ariz.—The plans of Mayberry & Parker for the Central st. bridge have been adopted.

Nashville, Ark.—Plans have been prepared for the construction of five new county bridges.

Pasadena, Cal.—Santa Fé will be asked to come into city through tunnel with streets bridged over top.

Joliet, Ill.—County Board of Supervisors has ordered the construction of a bridge over the Des Plaines River between Dupage and Romeoville. The estimated cost, \$2,000.

Fort Wayne, Ind.—For bridges Council has appropriated \$3,500.

Indianapolis, Ind.—Ten thousand dollars has been appropriated by city to build bridge across the canal in Indiana ave.—B. H. Miller, City Engineer.

Boston, Mass.—Neponset Bridge is to be repaired at a cost of \$12,000.—Wm. Jackson, City Engineer.

Albuquerque, N. M.—The County Commissioners have selected sites for the construction of three bridges in Bernadillo County; appropriation available, \$100,000.

Dayton, O.—City Engineer is preparing plans for construction of new bridge over Wolf Creek. Plans have been completed for new \$9,000 bridge at Webster st. over the Great Miami River.

East Cleveland, O.—Plans for the elimination of the grade crossings, as proposed by the Nickel Plate Co., have been submitted to the Village Council. According to these plans, 18 new bridges will be erected of concrete with the option of straight or curved archways.

Lorain, O.—County Commissioners are considering the construction of bridge at 31st st.

Toledo, O.—On account of legal technicalities contract for \$300,000 Cherry st. bridge cannot be let until after election.

Youngstown, O.—County Commissioners are considering the construction of bridge over Beaver River at Rock Point.

Guthrie, Okla.—The Santa Fé Railway will build a viaduct across its right-of-way.

Beaver, Pa.—The County Commissioners contemplate the construction of a bridge over Beaver River, near Rock Point; estimated cost, \$100,000.

Johnstown, Pa.—Bids will be received Nov. 1 for \$30,000 overhead bridge bonds.—Chas. O. Wehn, City Treasurer.

Slatington, Pa.—The Commissioners of Lehigh and Northampton Counties have approved plans for a 4-span bridge, 511 ft

long, to be constructed here; estimated cost, \$45,000.

Brady, Tex.—A joint meeting of the County Commissioners will arrange for a bridge across the Colorado River at Wal-drip.

Dallas, Tex.—Municipal Commissioners are considering sub-grade crossing at intersection of Cedar Springs st. and the Katy railroad; number of bridges are to be constructed, including concrete structure at Cedar Springs to cost \$7,000.

Dallas, Tex.—Under instructions from the Commissioners' Court, County Engineer Jack Witt has begun a new survey for a route for the viaduct between Dallas and Oak Cliff.

Bellingham, Wash.—County Engineer V. M. Eager has plans under way for the construction of a new steel bridge across the north fork of the Nooksack River at War-nich. The structure is to be a 136-ft. span.

Kalama, Wash.—Contract is to be let for a bridge at Castle Rock and a bridge across the Lewis River at Woodland is to be built jointly by Kelso and Clark Coun-ties.

Huntington, W. Va.—The Huntington Northern R. R. Co. has made application to the Secretary of War for a permit to build a bridge across the Ohio River at Huntington. Maps and plans are now on file with Lieut. Col. J. G. Warren, U. S. Engineer, Custom House, Cincinnati. O. By Z. T. Vinson, President of railroad.

Wheeling, W. Va.—City Engineer Cooke has prepared plans for strengthening the iron work of the 17th st. bridge over Wheeling Creek at a cost of \$2,000.

BIDS RECEIVED AND CON-TRACTS AWARDED

Napa, Cal.—The following bids have been opened for constructing a bridge over 1st st., near Chinatown: H. Waring, \$16,749; J. B. Newman, \$15,765.

Tuolumne, Cal.—Bids were opened on September 14 by the Supervisors for repairing the old Tuolumne bridge near here. The bids were as follows: Western Bridge & Construction Co., \$23,000; Cotton Bros. & Co., \$18,675; Mervy-Elwell Co., \$26,200; Hyde, Harjes & Co., \$22,450; Pacific Construction Co., 116 California st., San Fran-cisco, three bids, \$14,893, \$19,873 and \$23,-750, awarded contract.

Canyon City, Col.—Pueblo Bridge Co., Pueblo, has been awarded contract, at \$7,500, for constructing steel bridge over river at 9th st. for city and county.

Stanton, Del.—J. S. McIlvane & Co. Chambersburg, Pa., have been awarded contract, at \$2,730, for constructing two bridges for county, near this place.

Coeur d'Alene, Ida.—Carsellen Bros. have been awarded contract, at \$7,000, for constructing 120 ft. of steel Lewis bridge, over Spokane River.

Bloomington, Ill.—Leroy Concrete & Cement Block Factory have been awarded contract, at \$1,790, for constructing five small bridges and five culverts in Empire Township.

Lemont, Ill.—The Joliet Steel Construc-tion Co., Joliet, has been awarded contract, at \$3,625, for the construction of the con-crete arch bridge across Big Run Creek.

Thomson, Ill.—Clinton Bridge Co., Clin-ton, Ill., has been awarded contract for constructing iron bridge over Johnson Creek.

Elkhart, Ind.—The Elkhart Iron & Bridge Co. has been granted the contract for the building of bridge over the Little Elkhart River in York Township; its bid was \$2,-715, \$440 less than the bid made by the same company some months ago when all the bids were thrown out; a bridge over the Keifer ditch in Jackson Township and over the Hyde ditch in Jefferson Township will be built by Henry Cripe, of Goshen, for \$357 and \$347 respectively.

Council Bluffs, Ia.—E. A. Wickham has been awarded contract by the City Council, at \$7,492, for the construction of a concrete bridge over Indian Creek at Elgth st., and James Saguin, at \$5,500, for the construction of a concrete bridge over Indian Creek at Benton st.

Boston, Mass.—The State Highway Com-mission has awarded contract for rebuild-ing the Parker River bridge at Newbury to the New England Contract Co., of Worcester, at \$13,168.15.

Grand Ledge, Mich.—Bids were opened on September 20 as follows by Council for the construction of a bridge, three-span of reinforced concrete across the Grand River at Bridge st.: Kneal Ryan & Zimmerman, of Lansing, \$39,800 for the bridge proper, pavement \$2,541 extra; Advance Construction Co., Waterloo, Ia., \$37,600 for the three reinforced arches, no extras; Illinois Bridge Co., Chicago, (a) \$44,700, (b) \$45,370, (c) \$46,370, retaining walls and approaches \$18,700 more, paving and walks not in-cluded; Lane & Brown, Columbia City, Ind., \$33,975 for bridge proper, all extra except paving \$22,750; Sterling Engineering &

Construction Co., Milwaukee, Wis., \$42,300 for bridge proper and retaining walls, on extras \$6 per cu. yd. for concrete, \$2.25 per sq. yd. for pavement, 10c. per sq. ft. for sidewalks and 40c. per cu. yd. for filling ap-proaches; George R. Cook, Detroit, \$43,800 for bridge without extras; Wyncoop & Mc-Gormley Co., Toledo, O., \$47,700 without extras, \$53,700 for bridge completed and \$19,800 more for retaining walls; Huston & Cleveland, Columbus, O., \$49,900 for the three spans only; Huron Bridge & Iron Co., Port Huron, \$44,600 for bridge complete ex-cept paving, or \$39,800 without any extras. —F. E. Whipple, City Clerk.

Wadena, Minn.—Continental Bridge Co., Minneapolis, Minn., has been awarded con-tract, at \$4,900, for constructing bridge over Crow Wing River in Orton Township; bridge will be a three-span structure of the low truss type, having no overhead work. It will be 150 ft. long and the center piers will be tubular, with steel piles and plate backing.

Missoula, Mont.—Contract has been awarded to O. E. Peppard, at \$8,243, for the construction of two spans of 200 ft. each across the Missoula River at Westfall Spur.

Terry, Mont.—Security Bridge Co., Bill-ings, Mont., has been awarded contract, at \$47,800, for constructing bridge across the Yellowstone River at this place. Bridge will be about 800 ft. long, with five concrete piers.

Duncan, Neb.—The Nebraska Construc-tion Co., Lincoln, Neb., has been awarded contract, at \$11,250, for the construction of the Duncan bridge across the Platte River on the island.

Mauricetown, N. J.—The Cumberland County Board of Freeholders has awarded contract for repairing the drawbridge over Maurice River to the Owego Bridge Co., Owego, N. Y., at \$9,590.

Catskill, N. Y.—The following bids are reported opened on September 25 for con-structing a bridge over the Vosenkill at Main st.: (a) stone and (b) concrete and (c) stone bridge with vitrified brick arch: Geo. W. Holbridge, (a) \$6,825, (b) \$5,266, (c) \$6,325; Nicholas Leone, (a) \$6,550, (b) \$5,463, (c) \$6,700; Edgar Johnson and Harry Holdridge, (a) \$6,427, (b) \$5,618, (c) \$5,997; Union Bridge & Construction Co., (b) \$4,954; Schwelrs-Sutton Co., \$7,784, and Ferro Concrete Co., \$8,250.

New York, N. Y.—Bids were received as follows on September 29 by J. W. Steven-son, Commissioner of Bridges, for the con-struction of drip pans under the Manhattan approach of the Williamsburg bridge: Akani Construction Co., 215 W. 125th st., \$18,675; Eagle Iron Works, 403 E. 117th st., \$30,347; John Turl's Sons Co., 70 Cortlandt st., \$35,500; Lafferty & Wier, 723 Lexington ave., \$25,485; N. E. Construction Co., 225 Fifth ave., \$25,750; Snare & Triest, 143 Lib-erty st., \$30,490; H. E. Fox, 81 E. 125th st., \$29,000; Cooper & Evans, 220 Broadway, \$27,477; Charles Meade & Co., \$19,620; G. & W. Mfg. Co., \$36,660; C. B. Nicholson & Co., 90 West st., \$39,300.

Akron, O.—P. T. McCourt has been awarded contract, at \$9,401, for reconstruc-tion of the old Gorge bridge on the Cuya-hoga road, for the county; work includes a fill of 20,000 cu. yds. and some concrete work. The abutments will be raised 23 ft. higher, earth filled in behind them and part of the steel structure renewed.

Chickasha, Okla.—Contract has been awarded by the County Commissioners to the Mitchell Pigg Bridge Co., of Weather-ford, Tex., for the construction of ten bridges in Grady county, at \$12,214.—J. B. Saylor, County Engineer.

Pendleton, Ore.—Bids were opened Sep-tember 23 by the Commissioner Indian Af-fairs, Washington, D. C., for furnishing material and constructing a bridge on the Umatilla Reservation, (a) heavy construc-tion, (b) light construction: Des Moines Bridge & Iron Co., Des Moines, Ia., \$12,994; International Construction Co., Seattle, Wash., (a) \$9,068, (b) \$8,192; A. Y. Bayne & Co., Minneapolis, Minn., (a) \$14,362, (b) \$13,550; Penn Bridge Co., Beaver Falls, Pa., (a) \$14,300; Columbia Bridge Co., Portland, Ore., (b) \$8,884; Minneapolis Steel & Bridge Co., Minneapolis, Minn., (a) \$12,870.

Portsmouth, Va.—The Gwathmey Engi-neering Co., of Norfolk, the low bidder, has been awarded contract for constructing concrete bridge at south end of Court st. at \$3,989.80; other bids were: Guild & Co., Norfolk, \$4,239; V. M. Johns, Portsmouth, \$4,382; F. J. Maguire, Norfolk, \$6,000, and Alsop & Pierce, Newport News, \$4,850.

Piedmont, W. Va.—The County Court of Mineral County has awarded contract for two concrete bridges, one over Cabin run at the ford on the road from Cabin run to Reese's Mill, and the other over the run near Knabenshue's ford, to the Lu-ther Bridge Co., for \$1,150.—H. C. Thrush, County Road Engineer.

Marinette, Wis.—The Elkhart Bridge Co. will build the new Beaver-Pound bridge for \$3,785.

MISCELLANEOUS

Bessemer, Ala.—Council is considering purchase of a street sweeper.

Berkeley, Cal.—The City Council has purchased a site for an incinerator.

Oakland, Cal.—The bond issue will ap-proximate \$3,400,000. Of this amount, \$2,-200,000 is to be expended in water front improvements, \$530,000 of this latter amount to be applied on Western water front; \$1,400,000 will be expended in wharf construction, \$800,000 will be applied to the purchase of lands, and the remaining sum of \$1,200,000 will go into the proposed new City Hall and Hall of Justice.

Stockton, Cal.—An election will be held to vote on a bond issue of \$325,000 for the construction of a new City Hall, purchase of fire apparatus and a schoolhouse.

Vallejo, Cal.—A movement is on foot to have the city issue \$50,000 bonds to con-struct a new City Hall; the Board of Su-pervisors has just imposed a direct tax of \$50,000 to build a branch County Jail and County Officers' Branch Headquarters in Vallejo, and it is proposed to combine the two buildings into one and erect a fine structure costing \$100,000.

Dover, Del.—Council has authorized Fi-nance Committee to offer bonds for sale at higher rate than 4 per cent, at which figure no offers were received.

Wilmington, Del.—It is proposed to pur-chase an ambulance for each of the two local hospitals.

Washington, D. C.—Lincoln Park Citi-zens' Association have asked the Commis-sioners to remove the District Jail and Workhouse and turn the site into a public park.

Rock Island, Ill.—The Central Union Telephone Co. has offered to place all its wires under ground if the city will make certain concessions.

Fort Wayne, Ind.—Council has appropri-ated \$12,000 for the disposal of garbage and \$16,000 for street cleaning.

Indianapolis, Ind.—Council has author-ized expenditure of \$500 for an automobile for the Board of Public Works.

Lawrence, Mass.—A retaining wall for the playstead will be built at a cost of \$2,000.

Lawrence, Mass.—Supt. Collins has been authorized to investigate the matter of placing a fence around the reservoir.—E. L. Arundel, Chairman Water Board.

Lawrence, Mass.—Plans of the proposed new retaining walls on the playstead for skating purposes are being drawn for the Park Commission by the City Engineer's Department. Bids will be called for soon on the contract, \$2,000 having been appro-priated by Council.

Duluth, Minn.—City has finally sold \$50,-000 park bonds to Coffin & Crawford, of Chicago, at par, and Park Board will now, make needed improvements to the Boule-vard, Congdon Park and other parks, and purchase additional breathing places in all sections of the city.—Mayor Haven.

Minneapolis, Minn.—City Engineer Rinker plans to spend \$5,000 on enamelled signs on angle iron posts at street intersections.

Bayonne, N. J.—The Park Commission has completed its plans for tree planting throughout the city.

Montclair, N. J.—Essex Park Commis-sion, Newark, has instructed its secretary to have the landscape architect prepare plans for the improvement of the Maple ave. tract in Montclair recently presented by the town to the Park Commission.

Newark, N. J.—The Board of Health has been authorized to purchase a second auto-ambulance for \$2,700.

Lockport, N. Y.—Bids are invited at once for collecting ashes and garbage in separate wagons for three years, to cost \$4,500; citizens must now provide separate receptacles.—Address Street Committee of Council.

New York, N. Y.—Bids will be opened until Oct. 21, 3 p. m., by the Park Board, for the erection and completion of com-fort stations and shelter for women and children, located in Chelsea Park, 9th to 10th aves., 27th to 28th sts., Manhattan.—Henry Smith, President.

Port Jervis, N. Y.—The Building Com-mittee has been authorized to purchase a safe for \$1,000.

Columbus, O.—The city is planning to erect four new patrol sub-stations, lo-cated on the north, south, east and west sides of Columbus; a south side market house building is planned to be erected by the city.

Gallipolis, O.—The surveying corps have located the Ohio River lock and dam No. 25 at the mouth of the Great Kanawha River four miles east of here; this dam is to cost \$1,000,000.

Columbus, O.—The city is planning to erect four new patrol sub-stations.

Ardmore, Okla.—Bond issue of \$15,000 will be expended by new Park Board.—W. F. Whittington, Chairman.

Easton, Pa.—Councilmen desire more

time to look into the merits of various incinerators, and Oct. 1 postponed ordinance for purchase of a K. P. B. garbage incinerator for \$26,000.

Providence, R. I.—Citizens will vote on issue of \$500,000 State harbor improvement bonds for public ownership of dock facilities about the head of Narragansett Bay. —Ex-Lieut. Gov. Frederick H. Jackson, Chairman Harbor Improvement Commission.

Fort Worth, Tex.—The City Commission will order a new election upon a new bond issue as a means of meeting the demands of the Attorney-General's department in refusing to ratify the bonds issued Aug. 19.

Bellingham, Wash.—City Council will submit to voters proposition to increase tax rate for purpose of building municipal wharves and docks.

North Yakima, Wash.—The Northern Pacific Railway officials have agreed to build at their expense a subway under the Chestnut st. crossing; cost, \$75,000.

BIDS RECEIVED AND CONTRACTS AWARDED

Hampton, Ark.—The contract for the new Court House was let to E. L. Koonce, of Fordyce, Ark., for \$37,500.

San Francisco, Cal.—A contract for replacing and repairing wharves, piers, bulk-

heads and ferry slips was awarded to the Healy-Tibbitts Construction Co. at \$44,853, the lowest of five bids. The contract for furnishing rubble rock was awarded to the same company.

Spencer, Ind.—Christ Kanzler & Son, of Evansville, have been awarded contract for the erection of the new Owen County Court House, at \$77,000; the building is to be constructed of Bedford stone and must be completed in 18 months.

New Orleans, La.—The bid of the McGuire-Cummings Co., the only one received, for the building of steel garbage cars was referred to the City Engineer; the company wants \$1,368.75 per car.

Albany, N. Y.—State Superintendent of Public Works F. C. Stevens, Oct. 5 received bids on large canal contract 2-E, providing for the completion of the work under contract No. 2 at Waterford, which originally was awarded to the Ferguson Contracting Co. of New York and contract No. 43 for the construction of the canal east of Oriskany rd. to the west of Mud Creek; contract No. 2 was taken from the Ferguson Co. several months ago because it did not carry out the instructions of Superintendent Stevens. About 33 1-3 per cent remains to be done. The Ferguson Co. was the only bidder to compete for the work, its bid being \$289,464 as against the State Engineer's estimate of \$263,189; five

bids were submitted for contract No. 43, the lowest being that of M. A. Talbot & Co., of Baltimore, for \$1,320,560, as against the State Engineer's estimate of \$1,529,885.

Buffalo, N. Y.—Resolution empowering the Commissioner of Public Works to enter into a contract with the M. W. Kellogg Co. for the building of two radial brick chimneys at the new water works pumping station has been approved.

Middletown, N. Y.—Five bids for the construction of City Hall were received; they ranged from \$57,311 to \$78,500, and all were in excess of the appropriation.

Puyallup, Wash.—The contract for straightening the Puyallup river was let to the Wells Construction Co., of Tacoma, for \$17,460; other bidders were Hawley & Co., Seattle, \$18,430; Kandle & Wortrom, Eatonville, \$20,300; Cline & McKim, Puyallup, \$20,900; Fulmer & Jwin, Puyallup, \$21,474; American Pile Driving Co., Everett, \$23,720; Berghelm & Summers, Seattle, \$30,290; Puget Sound Pile Driving & Dredging Co., Seattle, \$37,760. There are three cuts to be made, the longest across the Lacey land, 1,300 ft. long; the Meeker junction cut is 1,200 ft. and the Stewart cut 400 ft. long. Each is about 12 ft. deep, five feet across the bottom and slanting out to about 27 ft. across the top. The river, when turned in, will enlarge the channels materially.

TOO LATE FOR CLASSIFICATION

STREET IMPROVEMENTS

Jacksonville, Fla.—County Commissioners have decided to repair Moncrief road.

Council Bluffs, Ia.—At request of Mayor Maloney, City Engineer Etnyre is preparing additional plats, drawings and estimates of proposed repavement of Broadway.

Jackson, Ga.—Butts County is considering \$20,000 bond issue for road construction.

Macon, Ga.—City will vote Dec. 8 on \$100,000 bonds for paving and \$100,000 for sewers.

Joliet, Ill.—The paving of Hickory st. with macadam is contemplated at a cost of \$26,283.

LaSalle, Ill.—Paving of South Illinois st. withdrew their protest and the City Council at its special meeting, called to consider that matter, passed the paving ordinance.

Amite, La.—Tangipahoa County will probably construct 250 miles of roads during next 12 months; estimated cost \$500 per mile.—John E. Kerrigan, Hammond, County Engineer.

New Orleans, La.—Bids are being received for repaving Main st., N. Boulevard and side streets; the Streets and Landings Commissioner has reported favorably on the paving with asphalt N. Franklin st. with square granite block, Magnolia st. with bitulithic, S. Rampart st.

New Orleans, La.—City has \$10,000 available for laying footwalks on Orleans st.—W. J. Hardee, City Engineer.

Baltimore, Md.—Commissioners for Opening Streets will widen Harford rd., after which it will be transferred to State Road Commission for improvement.—James H. Smith, President.

Baltimore, Md.—Bids will be received Oct. 14, noon, for improving Dover Bridge road; length 1.10 miles.—J. B. Harrington, Clerk, Board of Talbot County Commissioners.

Denton, Md.—Caroline County will probably construct five miles of shell or stone roads during next 12 months.—H. A. Paine, County Engineer.

Cincinnati, O.—Bids will be received by Board and Director of Public Service Oct. 19, noon, for improvement of Hackberry st. by grading, setting cement, combined curb and gutter, paving the roadway with boulders and constructing necessary drains and inlets.—John J. Wenner, Clerk.

Ironton, O.—Bids will be received Nov. 2 by County Auditor A. C. Robinson for \$50,000 turnpike bonds.

Avalon, Pa.—Bids will be received Oct. 21, 4 P.M., for grading, curbing and paving of Ohio st.—McBridge Surveying and Engineering Co., Ltd., 331 Fourth ave., Pittsburgh, Borough Engineers.

Bellevue, Pa.—Bids will be received Oct. 18, 7 p. m., for grading, paving and curbing Bayer ave.—John McBride, 708 Fitzsimons Bldg., Pittsburgh, Borough Engineer.

Chester, Pa.—Number of Councilmen have reported favorably on new street paving in Wilmington.

Greensburg, Pa.—Bids will be received Oct. 15, 7 P.M., for grading, curbing and paving two streets in South Greensburg Borough.—Clark Klingensmith, Secretary Council.

Media, Pa.—Board of Commissioners of Ridley Township, Delaware County, has

adopted on first reading bill providing for borrowing \$40,000 to be used in having highways repaired.

Uniontown, Pa.—Morgantown st. will be paved from Presbyterian Church to town line, and cement curb and gutter laid at a cost of \$15,000; bids wanted at once.—Borough Engineer Baker.

Chattanooga, Tenn.—W. L. Dodds, County Engineer, has about completed preliminary surveys for proposed Rossville boulevard; \$50,000 bond issue available.

Knoxville, Tenn.—The Asylum ave. viaduct will be built according to plans submitted to the Viaduct Committee, by W. B. Crenshaw and W. H. Park, to whom the Burk plans were referred some time ago; the plans are to be completed so that the Board of Public Works may ask for bids by Nov. 1.

Amarillo, Tex.—Potter County will probably construct dirt roads during next 12 months; approximate cost \$5,000.—Frank Wolfen, County Commissioner.

Beaumont, Tex.—J. G. Sutton, City Secretary, writes that the citizens have voted to issue \$10,000 bonds for paving.

Fort Worth, Tex.—Clem A. Boaz has been circulating petitions for the paving of Missouri ave.; bitulithic will probably be used.

Martindale, Tex.—Caldwell County is considering election to vote on issue of bonds for graveling roads in vicinity of Martindale.

Waxahachie, Tex.—Two hundred thousand dollars of the \$250,000 issue of bonds authorized for the construction of permanent roads in the Waxahachie precinct have been awarded to the Texas Trust Co. of Houston.

BIDS RECEIVED

Westbrook, Conn.—Highway Commissioner James H. MacDonald has awarded to Lane Construction Corporation of Meriden contract for construction of 5,800 ft. of highway at \$1.07 per ft. for macadam and \$1.77 per ft. for telford.

Paterson, N. J.—Board of Freeholders has awarded contract for paving Union ave. to G. F. Brackett. Prices were as follows: 77c. per sq. yd., \$50 each for catch basins, and 25 c. per cu. yd. for excavating.

Columbus, O.—D. S. Burt, Byesville, O., has been awarded a contract for Section No. 1, Cambridge and Byesville rd., for \$5,000 for water-bound macadam. His bid for macadam carbo-via treatment was \$6,100.

Fowler & Warrich, Barnesville, have been awarded contract for Section No. 1, Quaker City and Salesville rd., for water-bound macadam for \$7,990. His bid, including tar or asphalt macadam, was \$9,490. C. E. Wilson, Barnesville, bid for water-bound macadam \$8,194.

The following bids were received Oct. 7 for State Highway A, Infirmary rd.: The McGinty Contracting Co., Minerva, brick pavement on concrete foundation, \$12,000; brick pavement on rolled stone foundation, \$11,800. J. P. Warnick, Cadiz, macadam road, tarvia treatment, \$8,395; water-bound macadam, \$6,990; brick pavement on rolled stone foundation, \$11,925. Springer & Rufenacht, New Philadelphia, O., brick pavement on concrete foundation, \$12,161.67; brick pavement on rolled stone foundation,

\$11,310.67 (awarded contract).—J. C. Wonders, State Highway Commissioner.

Dayton, O.—Joseph Glaser has been given contract by Servers for improvement of Stewart st. about the premises of the St. Mary's Institute, at his bid of \$2,133.20.

Carthage, Tenn.—Contract for construction of sidewalks in Carthage, amounting to about 35,000 sq. ft., was let to Cunniff & Stone of Nashville at the price of 10 1/2 c. per sq. ft.

SEWERAGE

Pontiac, Ill.—Council has passed an ordinance providing for the construction of a sewer east of the Wabash Railway, extending from Livingston st. south to Washington st., 2,100 ft., 940 ft. to be 8 ins. in diameter and 1,160 ft. 10 ins.; cost \$1,610.

Streator, Ill.—A 10-in. tile sewer is soon to be constructed in South Illinois st.

Mishawaka, Ind.—City will purchase 400 ft. of 1/2-in. wire cable to be used by City Engineer in cleaning sewers.

South Bend, Ind.—Bids will be received by Board of Public Works Oct. 19 for constructing Cady st. sewer.

Boone, Ia.—Plans are being prepared for vit. clay pipe sewers; contract will probably be let in November.

Minneapolis, Kan.—Bids will be received Oct. 14 for construction of sanitary sewers.—Burns & McDonnell, Scarritt Bldg., Kansas City, Mo., Engineers.

Camden, N. J.—Bids will be received Oct. 20, 8 P.M., for construction of six sewers.—Edw. Francis, Chairman, Committee on Streets and Highways.

Lodi, N. J.—The State Board of Health has approved plans for a sewage disposal plant at Lodi, Bergen County.

Fargo, N. D.—Plans have been prepared for the construction of a sewer main in the 7th Ward; estimated cost \$11,500.

Akron, O.—Council has ordered \$1,000 bonds issued for plans for sewage and garbage disposal plants.

Lorain, O.—Council intends to extend the Oberlin ave. storm water sewer from its present terminus to 1st st.; Council has also ordered the construction of a storm sewer from Lake Erie through Colorado ave. to Delaware ave.

Mansfield, O.—New 8-in. sewers are soon to be constructed on Helen ave. and Hine-man blvd.

Niles, O.—Sewers are to be constructed on Mill and Holford sts.

Hugo, Okla.—City has voted \$75,000 bonds for sewer construction.

Kingfisher, Okla.—Bids will be received Oct. 18 for construction of sanitary sewers.—Burns & McDonnell, Scarritt Bldg., Kansas City, Mo., Engineers.

Lawton, Okla.—Citizens will vote on \$40,000 sewer extension bonds.

Chattanooga, Tenn.—Bids will be received Nov. 2, 2:30 P.M., for constructing Chattanooga Creek system of intercepting sewers. See "Proposal" advertisement.—H. Van Dusen, Chairman, Board of Public Works; Robt. Hooke, City Engineer.

BIDS RECEIVED

Kearney, Neb.—C. J. Burke & Son, city, have been awarded a contract for constructing 2,280 ft. 8-in. sewer for \$1,811.25.